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THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 23. SUSSEX, NEW BRUNSWICK, OCTOBER 10, 1916. Number 1.

The Charlottetown Exhibition

The twenty-fourth annual exhibition, held under the auspices of the Charlottetown Driving Park and Provincial Exhibition Association, was opened to the public on September 26th, 27th, 28th and 29th.

Tuesday, the opening day, was windy and cold, a weather condition not at all conducive to a large attendance. The weather on the other days was, however, all that could be desired, and all incoming trains and steamboats were crowded with excursionists en route to the big show. Long lines of horses and carriages dotted the roads leading to the city. No fewer than three hundred and twenty-five teams entered the city by one approach, the Hillsboro Bridge, which is one of the many highways leading to Charlottetown from prosperous outlying districts.

The exceptionally fine weather that prevailed this fall hastened the harvesting operations, and, unlike last fall, the grain was nearly all garnered and farmers and their families could well afford to take a well earned holiday. The turnstiles registered an aggregate of sixteen thousand admissions on the second and third days of the exhibition. These records outclass in numbers those of any other two days at any previous Charlottetown fair.

What meant the eager, joyous throngs? The answer is: Frank R. Heartz, president; C. R. Smallwood, secretary, and the other commissioners who have the welfare of the association in their keeping had been busy during the past year, making arrangements to stage in 1916 a record-breaking exhibition of the products of the island province.

To accomplish this result a big sum of money was needed. The Dominion Department of Arigculture gave a grant of $2,500. The Government of Prince Edward Island gave a grant of $5,000, and the City of Charlottetown, as usual, set aside a grant of $500. This tidy aggregate of $8,000 enabled the management to offer a specially tempting prize list. The response on the part of the Prince Edward Island agriculturists and live stock breeders was most creditable in all departments.

Although the exhibition was for the fourth time open to all Canada, the number of exhibitors who brought stock from the mainland was comparatively small. The difficulty of transferring livestock from train to steamer and vice versa is undoubtedly responsible for the small number of exhibits from the mainland. This difficulty will shortly be overcome by the completion of the docks at Tormentine and Traverse Capes, when the good ship "Prince Edward Island," will convey the cars of freight without transfer across the Northumberland Strait and the hard work of unloading and reloading en route will no longer be necessary. Then the mainland boys will go after the tempting prizes hung out at Charlottetown. But to go after them and to win them are two different propositions. The island breeders are improving in all classes of live stock and are looking well to their laurels. They are not satisfied to rest on their oars and take anybody's dust. Every time a little advance toward the ideal seems to be the motto of many of the island breeders. In other lines the Garden of the Gulf produces the very best grains, vegetables and roots, and is fast becoming the Denmark of America in dairy products, bacon production, egg production and in the development of community spirit and co-operation.

The Maritime Farmer has sent one or more of the members of its staff every year since its inception over twenty years ago to take stock of the agricultural progress of the island province as evidenced by the quantity and quality of the exhibits at the Provincial Exhibition. The Maritime Farmer is the only journal or medium of any kind that publishes a complete list of the prize winners in the sections of most importance to the live stock breeders and the growers of first-class seeds.

Thousands of dollars have been steered to the pockets of island breeders and seed growers by the publicity given to the prize winners through the columns of The Martime Farmer. When we receive requests for copies of The Martime Farmer containing a list of the prize winners at Charlottetown, and these requests are very, very frequent, we know that some mainlanders, and islanders, too, wish to patronize the growers of the best live stock and seeds in the Island Province. In passing, we wish to say to the breeders and seed growers of Prince Edward Island that the best and surest way for them to dispose of their surplus stock is to advertise in the columns of The Maritime Farmer. If any island reader has any doubt on this matter we will be perfectly satisfied if they abide by the verdict they will receive from any of the island breeders who have ever patronized our columns. Ask them!

Reverting to exhibition matters again, it may not be amiss to give the following comparative numbers of entries:

	1915	1916
Horses	275	289
Cattle	390	458
Sheep	287	290
Swine	190	251
Poultry	450	614
Grains and seeds	85	111
Roots and vegetables	425	583
Fruit	390	458
Plants and flowers	285	232
Dairy products	77	81
Fancy work	288	440
Art work	130	304
Woolen goods	127	140
School work	39	28
Miscellaneous	201	322
	3,639	4,601

This is the largest in the history of the exhibition, and an increase of 962 over last year, when the fair was also open to all Canada.

While these results are creditable and very encouraging to the management, they are looking for bigger and better things, for there is a sound abroad in the island, a rattling among the dry bones, so to speak, as evidenced by the following remarks by President Heartz at the official opening:

"The outlook for future exhibitions is excellent, but we are not at all satisfied with the showing made by the farmers. Of course, I will acknowledge that some few are to be congratulated on what they are doing and on what they have done, but the important fact remains that our exhibition is not up to the standard that it should be. We have endeavored to foster and increase certain classes by giving large prizes, but without much appreciable result. We wish to see more competition. You may not realize it, but it is far better to be third in a class of twelve than first in a class of only three exhibits. I have no doubt that many farmers come here as spectators who, when they see the prize articles or animals in the different classes, know that they have much superior articles or live stock at home, but they have been afraid or too dilatory to exhibit them. This, in a way, is a species of unpatriotism to your native province. The Dominion Government have established here an experimental farm, which, under the excellent management of Mr. Clark, has become second to none in Canada. The local government are now reviving the old stock farm and putting it on a proper and up-to-date basis, short courses are being held, lecturers cover the country, the Exhibition Association, with the assistance of both Federal and local governments, has been endeavoring to interest you from a financial standpoint, and notwithstanding all this the great majority of our agriculturists appear indifferent, and do not display the interest that they should in our provincial and county exhibitions. If we are to carry out the fundamental principal of this or any exhibition it is essential that we should have more exhibits, more exhibitions and much more competition."

We feel satisfied that the Association's desire for more exhibits, more exhibitors, and more competition, will shortly be realized. The desire is justly in accordance with the progress that is now rife in the Garden of the Gulf.

The most progressive business men of Charlottetown had well arranged displays of their goods at the fair. Their tastefully decorated booths blended nicely with the long lines of tables laden with the products of the orchard, the field, the garden, and the dairy.

The display by the Provincial Experimental Station was one of the indoor features. Special attention was given this year to the sheep industry, and an interesting collection of models of houses, racks, hurdles, etc., were shown. The treatmen of diseased plants and vegetables was also illustrated. The infected product was shown and alongside of it the formula for the cure. Various placards giving results of tests were also displayed. This included the oats tests made in Kings County. They showed that Banner leads with 62 bushels, 27 pounds to the acre, Ligowo second, and Old Island Black third.

Several hives of live bees, all "busy as bees"; models of barns and poultry houses, stacks of leaflets for free distribution were included in this splendid exhibit, which was in charge of Superintendent Clark and his assistants. These gentlemen were ready and willing to answer all questions about their exhibits and the scope of their work on the farm.

Dominion Egg Exhibit

The egg exhibit of the Live Stock Branch, Ottawa, was another instructive feature on the main floor. It was under the supervision of Mr. Kerr, of the Poultry Department, and was in charge of Mr. E. Rhoades. During the fair there was a candling demonstration in order that the city people might learn how to distinguish between good and bad eggs. A good sized candling booth was a part of the exhibit. The producer was shown also how to grade his eggs according to standards. There were specimens of eggs, cartons, candling appliances, etc. The last named appliances for lamps and electric lights will be mailed free from Ottawa on application. In this exhibit 203 dozen eggs entered in competition were classed as specials, extras, and No. 1's. This exceeds by 50 dozen the number shown at the Halifax Exhibition. The value of the egg crop was compared with fruit, vegetables, and barley was also represented by piles of money. The value of eggs in Canada last year being over $23,000,000, vegetables was over $20,200,000, fruit about $13,000,000, and barley $14,000,000.

The Egg Circle movement is rapidly gaining ground and accomplishing results in Prince Edward Island. We made special editorial mention of their work in our September 12th number.

Another movement that is rapidly gaining ground in Prince Edward Island is the co-operative sale of wool.

To help along this line of work in Canada the Live Stock Branch of the Dominion Department of Agriculture made exhibits at the fall fairs and

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Charlottetown was rightfully entitled to a place in the itinerary.

The exhibit was incharge of Messrs. G. E. O'Brien, C. Stetson, G. M. McCrimmon, and T. W. Sexsmith, who were on hand to answer all questions and help boost the sheep raising industry.

The object was to explain fully the various classifications and grades, and to show how wool may be handled in such a way as to secure the best advantages to both the producer and buyer. In order to command the highest market prices wools should be presented in a carefully folded and packed condition, and should contain as little foreign matter as possible. The graded product is also more acceptable to the trade than where all qualities are mixed together.

One of the most interesting and instructive features comprised samples of wool in both the greasy and scoured condition, showing the injurious effects of using insoluble paints, which are difficult to remove, rather than the standard dipping fluids for marking purposes. This case also contained samples of wool that had been tied with binder twine showing how the sisal fibre becomes incorporated into the wool and the consequent defect this produces in the finished product. The injurious effects of shearing wool while damp or permitting it to become damp while in storage are shown, together with the damage caused by the incorporation of straw and chaff into the fleece.

In the display were shown most of the important classes of Australian, New eZaland, South American and South African wools. Of foreign and domestic wools used in Canadian manufacture there was a very complete collection. Two large cases contain representative fleeces of the most important breeds of Canadian sheep, and smaller samples of each were shown to distinguish their character and staple. This is supplemented by a most comprehensive display of English wools covering virtually every grade in that country. In these cases beginners were given an opportunity to compare the wool of the different breeds, and thus become acquainted with the average weight of fleece and quality of wool obtained from each.

Comparison was also made of the British, American and Canadian methods of classification, but especial emphasis was placed on the domestic product. One large case contained fleeces of Canadian wool representing the different classes as they are graded for the market.

The process of woolen and worsted manufacture was illustrated by samples representing the intermediate products from the wool in the grease to the finished cloth. This served to give the public an idea of the types of wool entering into the different classes of fabrics. Although the living specimens were not shown, a number of enlarged photographs of representatives of the different breeds, as well as entire flocks, were included in the exhibit.

There was a good display of grains, roots, and vegetables. Mr. J. A. Clark placed the awards.

The fruit show, though small, was creditable, well grown, well colored, and quite free from evidences of fungus and insect depredations. H. A. D'Almaine placed the awards.

The cheese and butter exhibits were the best ever shown at Charlottetown, and indicated that the special efforts put forth during the season to improve the quality of the output met with success. Prof. Reek, who is in charge of the agricultural development work in Prince Edward Island, informs us that the majority of the factories have made many improvements in and around their premises besides a great deal of missionary work among their patrons, all with a view to enhance the quality of the finished product. George Barr, chief of the Dairy Division, scored the various exhibits, and was assisted by Messrs. Morrow and Mitchell, who are doing such good work in promoting the island's dairy industry. The arrangement, the quality, and number of exhibits, strikingly evidenced what Prince Edward Island and its people can accomplish in this most important industry.

Speaking of the cheese exhibit, Mr. Barr said:

"In apeparance the cheese are better finished than last year. They are better made, the texture is closer, but the flavor, he regretted to say, was not so fine as it should be. The defects in flavor and texture would be due to insufficient cooking or leaving too much moisture in the curds at dipping. There is an increase in the number of entries. The show, on the whole, is creditable, but there is still room for improvement in the finish and quality of the cheese."

Entries in the cheese classes are open to Prince Edward Island factories only, and must be made through the secretary of the Island Dairy Association under the following conditions:

All chese for exhibition will be held in the custody of the Prince Edward Island Dairy Association, and one box of cheese, either large, twins or a flat, from the make of June, July, August and September will be required.

The Dairy Association will take charge of, store and insure all cheese for exhibition and all exhibits will be sold at the first meeting of the Cheese Board after the exhibition.

A representative of the Dairy Association will set aside when passing through Charlottetown one box of cheese from the last half of each month's make except Setember, which will be taken from the first half.

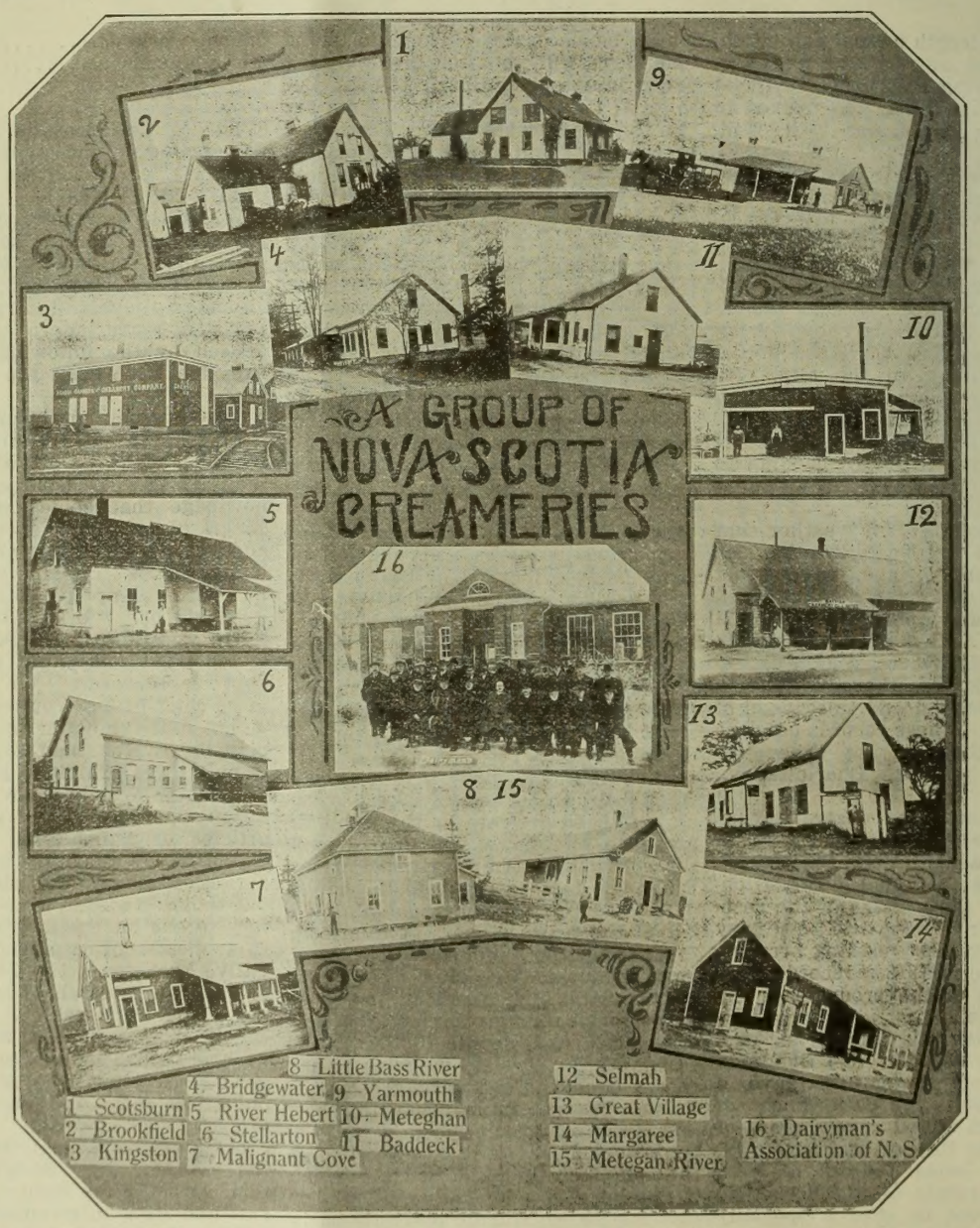
In case a factory enters and the shipments are not passing through Charlottetown each month, by corresponding with the secretary of the Dairy Association, they will receive instructions how to proceed.

In setting these cheese aside, covers will not be removed from the boxes, the idea being to get a representative sample of the factory's output for exhibition, but any box that is marked "Seconds" will not be taken.

The cheese from each month's make will be scored separately and the average of the total score for the four months will be taken as the basis in apportioning the prizes.

The prize money allotted will be awarded pro rata according to points obtained by and over a minimum standard of 92 points.

The cheese will be judged by an independent expert by a scale of points as follows: Flavor, 45; texture, 25; body, 15; color, 10; finish, 5; total, 100.



Following are the scores in the cheese department by the various factories in alphabetical order for a pure of $150 awarded pror ata to all exhibits scoring 92 points or over:

Alberton	93.87
Cornwall (3rd prize)	94.96
Dundas	93.08
Emerald (2nd prize)	95.05
Egmont Bay	92.07
Gowan Brae	93.07
Grand River	93.08
Hillsboro	93.97
Hamilton	93.47
Hazelbrook	94.62
Kinkora	94.15
Kensington	93.3
East River	91.97
Lot 16	93.22
Murray Harbor	No exhibit
New Perth	91.22
New Glasgow	94.12
Orwell	90.6
O'Leary	91.85
Park Carner	93.5
Red Point	94.05
Red House	93.
Souris East	92.47
Summerside	93.98
Stanley Bridge	93.82
Tignish (1st prize and Gold Medal)	95.27
Tyne Valley	91.52
Vernon River	93.35
Wiltshire	91.87

Private dairy cheese—1. R. B. McKinley, North River.

The butter scores in the respective sections were as follows for a purse of $30, divided pro rata to all exhibitors scoring 92 points or over. Box of 56 pounds, suitable for export, made at any creamery:

J. P. Simmons, Durestaffnage	96.8
Ben Gallant, St. Louis	96.1
Heber McQuarrie, Wellington	95.7
Hiram Lane	95.6
Dunk River Creamery	95.5
R. H. Hubley	95.3
Tryon Dairy Co	95.

Box prints, 50 pounds, in regular shipping box as used by creamery, for a purse of $20, divided pro rata to exhibitors scoring 92 points or over:

Tryon Dairy Co (Gold Medal)	97.3
Dunk River Dairy Co	96.1
J. P. Simmons	95.7
Heber McQuarrie	95.1

Tub or crock, 20 pounds, made at private dairy, for a purse of $15, divided pro rata on scores of 90 points and over:

Mrs. Ernest Provose, Blackley Point Road	94.2
Fred Glydon, Margate	93.1
Mrs. John McMillan, Hazelbrook	92.9
Mrs. L. H. D. Foster, Marshfield	92.2
Mrs. William Noy	91.9
Clara E. McMillan	91.8
Mrs. G. H. Hooper	91.3
Maud Carew	91.7

Louise Howard 91.5
Mrs. A. H. Boswell..... 90.7
James Essory ..... 90.
R. B. McKinlay 89.5
George H. Jones..... 89.5

Box of prints, 6 pounds, made at private dairy, for a purse of $7.50, divided pro rata for scores of 90 points and over:

Maud Carew, Hunter River..... 93.2
Mrs. L. H. D. Foster..... 93.
Frank Glydon 92.3
Mrs. W. D. Fraser..... 92.1
Mrs. Calvin Wood ..... 91.
Louise Howard ....., 90.7
Mrs. A. H. Boswell..... 90.5

Butter, fancy display, 2 to 5 pounds, made at private dairy:

First—Heath Vessey.
Second—Miss Edna McDonald, York.
Third—Mrs. Daniel Fraser, North River.

The Horses

The horse show at Charlottetown was a big centre of attraction. Hundreds of interested spectators lined the judging ring and closely followed the decisions of the judges.

Dr. E. Watson, Hudson Heights, Quebec, placed the ribbons in the light horse classes and Mr. Adam Scharfe, Cummings Bridge, Ont., did similar duty in the heavy horse classes.

There were quite a number of entries in the carriage class, but the majority of them would be more in place in the roadster class. Warren Ogilvie's matched pair of hackneys led the way in their class, followed in second place by John Horne's pair by Kalol and Parkside. C. B. Clay showed the champion mare of the class, a two-year-old filly by the thoroughbred stallion Zabingo. A nice yearling filly by Fashioner and a trappy gelding by Island Swell, shown by George Boswall, showed considerable carriage action. The majority of the other entries were of a roadster type, standard bred breeding predominating.

Standard Breds

There was a good showing of standard breds. The aged stallion class brought out such noted sires and prize-winners as Mayor Todd, the Acadian by Sabledom, and Prince Major by Moko. Despite the fact that Mayor Todd has put in a long, hard season in the stud and on the turf, and is not carrying very much surplus flesh, he led his class. The Acadian followed in second place, and Prince Major in third.

D. W. White of ork Point, had the only entry in the three-year-old stallion class, Pat Ola by Dingold.

Alex McKay, of Charlottetown, and Duncan Robertson were the only contestants with two-year-old stallions. The red and the blue were placed in the order named on Moko, Jr., by Prince Marjor and Bottom Brazilian by Bottom.

The three-year-and-over-mare class brought out five good ones. Harriet King by Robert King, Queen Alto by Alphonso, and Capitola H. by Parkside captured the red, the blue, and the white ribbons in their respective order, while further down the line beyond the prize money stod Oak Cap by Oakley Baron, and Dudy Beatrice by Kalol.

The winners of the Hammond Kelly special prizes for the best foals of 1916, sired by Mayor Todd were Miss Clara E. McMillan, Cymbria Lodge; William Aul & Son, Clyde River; George H. Jones, Brackley Point Road, and Stewart McEachern, Mt. Stewart, with a quartet of beauties.

Saddle Horses

There were five entries in the class for saddle horses ridden by gentlemen, and four entries were in the class ridden by ladies. One of Warren Ogilvie's hackneys led the former class, and the first and second prize winners in the latter class were by Hernando and razilian.

Roadsters

The roadster classes, although not boasting a great deal of quantity, had quality to burn. There were five entries in the aged class. The three-year-old class brought out only two entries, one by Darkwood, the second by Commodore Ledyard.

There were only two entries in the section for brood mares. The first prize winner was by Parkside, and the other by Cresceus. Their foals were by British Soldier. A Kalol mare led the class for mare or gelding shown in carriage.

Ponies

There were only three ponies on the grounds.

Shires

The shire breed had only one representative, the aged stallion Eskham Waggoner.

Percherons

With the exception of the first prize aged stallion Georg's, shown by David Reid, Montague, A. R. McKay, of Charlottetown, owned all the Percherons shown in the ring. The aged stallion Kassott, two good three-year-old mares, a brood mare with foal at foot, a two-year-old filly and a one-year-old filly.

General Purpose Horses

The aged section of this class brought out eight entries. The three-year-old section had five entries—A andit, a Crown Rights and a Fashioner captured the money in their respective order. One brood mare with foal and one matched team were the other entries in this useful class.

Walking Horses

Byrne Bros. aged mare by aPrkside captured first money in the class for light horses, and Horne Bros., A. A. McBeatte and Pope Noy captured the dough with fast walking drafters.

Clydesdales

Now we come to the big feature of the horse show, the feature in which the farmers were most interested—the Clydesdales and the heavy draft horses, the majority of the latter being the get of pure bred Clydesdale stallions.

The aged stallion section was graced with six entries. The never beaten Baron Kelvin by Baron's Pride, Thorndale by High Honor, Wood End Chief by Up-to-Time, Royal Darnley by Bergie Royal, Black Band Sensation by Black Band and Lord Dalmaney, Jr. ,by Lord Dalmaney. The first mentioned stallions captured first, second and third monies in the order named. Baron Kelvin captured the championship diploma and first prize offered by the Clydesdale Association for the best imported stallion, Thorndale captured the second prize in the latter section.

Baron Rossiter by Baron Kelvin, Mock Kippock by Kippoch Prince, and Pan Baron by Baron Kelvin put up a three-cornered contest in the three-year-old stallion class, and were placed in the order mentioned. Baron Rossiter was later awarded the gold medal for best Canadian bred stallion. There was also a three-cornered contest in the two-year-old stallion section, and when Mr. Scarfe had made his decision the prize winners in the order named were: Dean of St. Cuthberts, Clyde Prince and Prince Evan, all by Keppoch Prince.

Sons of Baron Mac, Baron Kelvin and Bandit were the only three contestants in the one-year-old stallion class, and won the red, the blue and the white in the above mentioned order.

E. Heartz had the only three-year-old filly in the Clydesdale class, a beautiful mare by Atlas.

Two-year-old fillies were two in number—a Keppoch Prince filly led the way, followed in second place by an Atlas filly.

In a three-cornered contest in the Prince fillies sandwiched a Baron Kelvin filly. The first prize winner in this class was Haidi of Sure Acres out of a Crown Rights dam shown by W. W. Crosby, Cornwall, who with her captured the diploma for best mare any age and the Clydesdale Association gold medal for best Canadian bred filly.

There were seven foals of 1916 and six brood mares with foal at foot. The dam of one of the foals shown, a Keppoch Prince mare, died when the foal was quite young and he was reared by a very ordinary looking light mare, but the little orphan by Baron Kelvin led his class. A Baron Kelvin foal out of a King's Fortune dam came in for second money, and a Lord Darnley foal out of a Moncreif Marquis dam captured the third money, while further down the line stood three Thorndale and one Keppoch Prince foals. The mares with foals at foot were awarded prizes from the lower end of the list. The grey Maximilla by Hiawatha Gudolphin with her foal by Keppoch Prince, a Baron Russel mare and Lady Weaver, both with Thorndale foals at foot, captured second and third monies. Maximilla won the Clydesdale Association prize for best imported Clydesdale mare.

R. P. McKinlay's Lord Darnley was the only stallion shown with two of his get.

The Clydesdale Association special prize for the best mare or gelding sired by a registered Clydesdale stallion was awarded to E. Heartz on a mare by Reformer.

A pair, one a Reformer and the other a Prince Prime, also shown by E. Heartz, captured a similar special for pairs, the second prize going to Horne Bros. on a beautiful pair by Crown Rrights. The other contestants for the honors was a Crown Rights and a Lord Darnley, shown by D. C. McKinlay.

Heavy Draught Horses

The heavy draugt horses made a splendid showing. In the three-year-ol dclass there were five fillies. The first prize winner was by Keppoch Prince. The second an dthird prizes went to Baron Kelvin fillies, Hercules and Brown Mac were the sires of the other two.

Two-year-old fillies were five in number. In this class also a Keppoch Prince filly led the way an Eskham Waggoner came in for second money, a Lord Darnley for third, and there being only three prizes a Bandit and an Atlas did not win anything for their owners.

Baron Kelvin, Bandit and Lord Darnley were the sires in the order named of the prize winners in the yearling filly class.

The section for mares with foal at foot had three entries and the awards, as was also the case with foals of 1916 were: First a McQueen mare with Bandit foal and two Crown Rights mares; the second prize mare with a Royal Darnley foal and the third prize mare with Baron Kelvin foal.

There was only one matched team, 1400 pounds and over, a Crown Rrights and an Eskham Waggoner, shown by D. C. McKinlay.

The class for mares or geldings, 1400 pounds and over, brought out five good ones. The first and second prizes went to a full brother and sister out of a Rockaby dam and sired by McLean's Barrister, shown by G. H. Simmons. Pope Noy had the third prize winner, a Sir Donald. The other two entries were by Crown Rights.

The Hon. John Richards special prizes for 1916 foals by Baron Kelvin went to foals out of Keppoch Prince and Crown Rights mares, the first prize winner being the orphan referred to in a former paragarph.

Beef Cattle

The beef cattle were judged by L. O. Clifford, Oshawa, Ont. Mr. Clifford is one of the most successful breeders of Hereford cattle in Canada. At all the leading Western shows he has captured the choicest awards during the past seven or eight years.

Shorthorns made the best showing that ha sever been put on at Charlottetown. A. N. Griffin was over from New Minas, N. S., with a choice herd to vie with J. M. Laird & Son, Theodore Rose, Francis Chown, W. B. Travisdale, Harry Tweedy, Boyd Livingstone, S. C. Lane, Hugh McPhee, H. Mason, Ray Clark and Wallace Stead, who all brought their stock out in a very creditable condition. Laird & Sons' aged bull, Stately Monarch, was first in his class and carried off the male championship and was first with three of his get. Laird's two-year-old heifer Elmdale Rosedrop captured the female championship. The Lairds also captured the first prize in aged herd. rGiffin showed the second prize aged herd and the first prize breeder's young herd.

Herefords

Herefords were shown by William O'Brien and Sons, Windsor Forks, N. S., and G. L. Hayden, Cherry Valley, P. E. I. The big majority of the choicest awards were captured by the O'Brien herd. Hayden led the way with tw-oyear-old bull, two-year-old heifer and senior heifer calf. O'Brien's aged bull, Princeps 33rd and their junior heifer calf Stella were the male and female champions of the class.

Aberdeen Angus

With the exception of second prize on yearling heifer which went to Joseph Praught, Cherry Valley, all prizes in the Aberdeen Angus class went to Horne Bros.' smooth, evenly finished herd.

Beef Grades

There was a nice showing of beef grades. See the list of awards on another page.

Dairy Cattle

There was a big showing of dairy cattle, all of which, with the exception of a few Jerseys shown by T. C. Latham of Sylvester, N. S., were from island herds. Pure breds are rapidly increasing in numbers in the island province, and it is most gratifying to note the enthusiasm that exists among the young breeders who are just beginning to take up the work. F. R. Mallory, Frankford, Ont., placed the awards.

Ayrshires

It is needless to say that there was a good showing of Ayrshires when it is known that A. McRae & Sons had their stock in the ring. Both in the show ring and in the dairy tests the McRae's have been doing excellent work with their Ayrshires. The other breeders who showed Ayrshires were: H. A. Robertson, Henry Brennick, A. E. Ings, Pope Noy, Robert Stewart, John Barr, W. F. Yonker, Calvin Wood and Bert Brown. Mr. Brown is breeding a big, useful type of Ayrshire with well placed, large teats. One of the cows in his herd, Anne II, now aged 17 years and 9 months, has since October, 1912, dropped four calves, two of which were prize winners this year, and has given 33,700 pounds of milk, testing 4.4 per cent. butter fat, yielding 1,482 pounds of butter.

McRae's junior bul calf, Lochinvar Champion out of White Rose by Netherton Lochinvar, was the male champion, and their Nellie of Spring Brook Farm came in for similar honors in the female section.

The best four animals get of one sire were by Hobslands Thumphie's heir McRae's aged bull.

The two best animals' progeny of one cow were shown by John arr.

Jerseys

The battle royal in Jerseys was waged between the herds of William Clark & Sons, Wallace Stead, A. R. McKay, Frank Glydon & Son and T. C. Latham, all of which contained individuals of merit. The owners of these herds are not faddists and their herds show that they are money makers. Frank Glydon & Sons' yearling bull, Figgis Fern Lad was the champion male, and Clark & Sons' first prize

aged cow, Lassie of Maple Grove, was good enough to snatch the female championship from all comers. Messrs. Clark and Stead had the first and second prize aged herds, respectively, and the Glydons captured the first prize in breedrs' young herd.

Guernseys

The main showing in the Guernsey class was made by Roper Bros. and Frank H. Roper. Roper Bros. two-year-old Helen's Prince was the male champion, and Frank H. Roper's Maidie of Eastview, the first prize aged cow won the female championship. Both herds made a good showing.

Holstein's

Competition was not lacking in the Holstein classes. W. McLeod, the island's most prominent Holstein breeder, was there with a string of good quality. W. J. Gibson is also building up a good herd and captured some of the prizes. Godfrey Bros., John Twedy, A. Roy Jnoes, J. Walter Jones also helped to keep matters moving in this class.

The Lea herd captured the choicest awards throughout the class, and in the Association Specials sections. The champion female was Island Aggie De al, first prize cow in the aged class. The best two animals' progeny of one cow were out of Aggie Daisy Dr. Kol. The majority of Lea's young stock were by Ida Rooker II Vale. Tweedy had the best yearling heifer. Godfrey ros. showed the best yearling bull. Gibson captured first and third monies on two-year-old heifers and a first on ujnior calf. The herd prizes went to Lea.

There was a big showing of dairy grades. See the full list of awards on another page.

Sheep

All that need be said about the sheep classes is that the most popular breeds were well represented and when we say that the respective breeds were in the hands of the island's best shepherds it is needless to remark that there were very few weaklings or off type individuals in the aggregation that nearly totalled three kundred head. C. D Bain., Oshawa, Ont., placed the awards.

Swine

Mr. Bain also judged the swine classes, and a busy time he had. Yorkshires, Berkshires, Tamworths and White Chesters and their grades and crosses made up as good a showing of pigs as one would find anywhere in Canada. About 260 head, all ages, were penned at the fair. Several of the hogs entered in the bacon for export class were overweight but of splendid type.

A. A. McBeath, Marshfield, showed a monster Yorkshire boar, the largest we have ever seen at any of our Maritime fairs.

T. C. Latham, Sylvester, N. S., judged the poultry classes. White Leghorns in young and old led the entry list. There were some excellent specimens of Orpingtons, Minorcas, White Wyandottes and Rhode Island Reds.

The ducks, geese and turkeys were an excellent lot.

PRIZE WINNERS AT CHARLOTTETOWN

HORSES

Carriage Horses

Filly, 3 years old—1, E. Heartz, Marshfield; 2, W. M. Lea, Victoria; 3, Walter Rodd, Harrington.

Filly, 2 years old—1, C. B. Clay, Bridgetown; 2, Wm. Auld & Son, Clyde River; 3, J. S. Wedlock, Charlottetown.

Filly, 1 year old—1, Geo. Boswell, French Fort; 2, S. A. Knight, Georgetown; 3 ,J. H .Judson, Alexander.

Foal of 1916—1, Clara E. McMillan, Cymbria Lodge; 2, J. R. Dennis, Charlottetown; 3, Wm. Auld & Son.

Mare with foal at foot—1, J. R. Dennis; 2, Peter McN. Robertson, Marshfield; 3, Clara E. McMillan.

Carriage mare or gelding, 15 ½hands or over shown in carriage—1, Warren Ogilvie, 2, Samuel eKnnedy, Charlottetown; 3, Geo. Boswell, French Fort.

Carriage mare or gelding, under 15½ hands, shown in carriage—1, John Livingston, New Dominion; 2, A. A. McBeath, Marshfield; 3, John D. McPhail, Argyle Shore.

Champion mare, any age—1, C. B. Clay, Bridgetown.

Pair of horses shown to carriage—1, Warren Ogilvie; 2, John Horne, Winsloe Station.

Clydesdales

Stallion, 4 years old—1, John Richards, Bideford; 2, Roper Bros., Char lottetown; 3, David Reid, Montague.

Stallion, 3 years old—1, H. Godfrey, Marshfield; 2, Edward Currie, Fairview; 3, Daniel McKinley, North River.

Stallion, 2 years old—1, J. H. Crosby, Marshfield; 2, Boyd Livingstone, Clyde River; 3, Mac Vickierson, North River.

Stallion, 1 year old—1, Athol Roberts, Highfield; 2, A. E. Ings, Marshfield; 3, J. F. McFarlane, Marshfield.

Filly, 3 years old—1, E. Heartz.

Filly, 2 years old—1, John R. Stewart, Kensington; 2, E. Heartz, Marshfield.

Filly, 1 year old—1, W. W. Crosby, Cornwall; 2, A. H. Boswall, York; 3, Peter McN. Robertson.

Foal of 1916—1, W. W. Crosby; 2. Perley Mutch, Southport; 3, Athol Robert, Highfield.

Mare with foal at foot—1, J. H. Crosby, 2, Roper Bros., 3, Vernon McMillan, Charlottetown.

Champion stallion—Diploma, John Richards.

Champion mare—Diploma, W. W. Crosby.

Stallion and two of his get—Diploma, R. B. McKinley.

Clydesdale Association Specials

For best imported stallion—1, John Richards;2 , Roper Bros.

For best imported mare—1, J. H. Crosby, Marshfield.

Best Canadian bred stallion—Gold medal, W. H. Godfrey.

Best Canadian bred mare—Gold medal, W. W. Crosby.

Best single mare o rgelding in harness sired by registered Clydesdale stallion—1, E. Heartz.

Best pair in harness, sired by Clydesdale station—1, E. Heartz; 2, Horne Bros.

Hon. John Richard Specials for best 1916 foals by Baron Kelvin—1, W. W. Crosby, 2, Perley Mutch, 3, C. H. Robertson.

Standard Breds

Stallion, 4 years old—1, Hammond Kelly, Charlottetown; 2, Mrs. W. G. Church, Travellers Rest; 3, J. H. Murphy, Charlottetown.

Stallion, 3 years old—1, D. W. White, York Point.

Stallion, 2 years old—1, Alex McKay, Charlottetown; 2, Duncan Robertson, North River.

Filly, 3 years old—1, T. C. Latham, Sylvester, N. S.; 2, J. S. Wedlock, Charlottetown; 3, D. W. White, York point.

Gentleman's saddle horse—1, Warren Ogilvie, 2, E. H. Cameron, Charlottetown, 3, E. J. Vesey, York.

Lady's saddle horse—1, Beatrice McKinnon, Charlottetown; 2, Stephen Holyoke, Charlottetown; 3, Ethel E. Haszard, Charlottetown.

Roadster Horses

Mare or gelding, 4 years old—1, W. W. Jenkins, Georgetown; 2, George A. Stewart, Keypoch; 3, Lyle Boswale, Marshfield.

Filly or gelding, 3 years old—1, Fulton Moreside, North River; 2, W. S. Newsome, Charlottetown.

Brood mare with foal—1, Byrne Bros., North River; 2, Wilbert Dockendorff, North River.

Mare or gelding shown in carriage—1, Horne Bros., Winsloe Station; 2, Goodwill McPhail, Argyle Shore, 3, J. S. Wedlock, Charlottetown.

Walking Horses

Mare or gelding, shown to carriage—1, Byrne Bros., 2, Hugh McKinnon, Charlottetown; 3, Donald McMillan, St. Avards.

Mare or gelding, draft, shown in cart or truck wagon—1, Horne Bros., 2, A. A. McBeath, 3, Pope Noy.

Percherons

Stallion, 4 years old—1 and diploma, David Reid, Montague, 2, and all other prizes on females to A. R. McKay, Charlottetown.

Shires

Stallion, 4 years old—F. W. Hughes, Charlottetown.

Draft Horses

Filly, 3 years old—1, Goodwin McPhail, 2, Oliver Nunn; 3, Perley Mutch.

Filly, 2 years old—1, W. W. Crosby; 2, C. H. Robertson: 3, Daniel McKinley.

Filly, 1 yea rold—1, James S. Farquharson; 2, J. H. Pierce; 3, Daniel McKinlay.

Foal of 1916—1, Frank B. Bell; 2, Francis Chown; 3, E. H. Robertson.

Mare with foal at foot—1, Frank B. Bell; 2, Francis Chown; 3, E. H. Robertson.

Pair draft horses in harness—1, Daniel McKinlay.

Draft mare or gelding, 1400 pounds—1 and 2, G. H. Simmons; 3, Pope Noy.

Ponies

Single pony, 12 hands and under—1, A. R. McKay; 2, Samuel Kennedy, Charlottetown.

General Purpose Horses

Mare or gelding 4 years oldJ1, John R. Stewart; 2, Maurice Blake, Charlottetown; 3, J. R. Dennis, Charlottetown.

Mare or gelding, 3 years old—1, J. H. Pierce; 2, Vernon McMillan; 3, Alexander R. McKay.

Brood mare with foal at foot—1, Jas. Stockman, Winsloe Station.

Matched team—1, Daniel McKinley.

BEEF CATTLE

Shorthorns

Bull, 3 years old—1, J. M. Laird & Son, Kelven Grove; 2, Francis Chowen, Winsloe Station; 3, W. B. Travisdale, Crapaud.

Bull, 2 years old—1, Theodore Ross, North Bedeque; 2, Harry Tweedy, Enrscliffe; 3, Boyd Livingston, Clyde River.

Bull, 1 year old—S. C. Lane, Mt. Mellick; 2, Hugh McPhee, New Dominion; 3, H. Mason, Charlottetown.

Bull, sr. calf—1 and 2, A. N. Griffin, New Minas, N. S.

Bull, rj. calf—1, J. M. Laird & Son; 2, Wallace Stead, Highfield.

Cow, 3 years old and upwards—1 and 2, J. M. Laird & Son; 3, Harry Tweedy.

Cow, dual purpose, over 3 years—1, J. M. Laird & Son; 2, Theodore Ross; 3, Harry Tweedy.

Heifer, dual purpose, under 3 years—1, A. N. Griffin; 2, J. W. Laird & Son; 3, Frances Chown.

Cow, 2 years old—1 and 2, J. M. Lard & Son; 3, Ray Clark, Union.

Heifer, 1 year old—1 and 2, A. N. Griffin; 3, J. M. Laird & Son.

Heifer, senior calf—1, J. M. Laird & Son; 2, A. N. Griffin; 3, Harry Tweedy.

Heifer, junior calf—1, J. M. Laird & Son; 2, Theodore Ross; 3 A. N. Griffin.

Champion bull—Diploma, J. M. Laird & Son.

Champion female—Diploma, J. M. Laird & Son.

Aged herd—1, J. M. Laird & Son; 2, A. N. Griffin.

Breeders young herd—1, A. N. Griffin.

Bull and 3 of his get—1, J. M. Laird & Son; 2, Frances Chown

Cow and 2 of her offspring—1, Harry Tweedy; 2, J. M. Laird & Son.

Herefords

Bull, 3 years old—1 and 2, William O'Brien & Sons, Windsor, N. S.

Bull, 2 years old—1, G. L. Hayden, Cherry Valley.

Bull, senior calf—Wm. O'Brien & Sons.

Bull, junior calf—Wm. O'Brien & Sons.

Cow, 3 years old—1, Wm. O'Brien & Son; 2, Thos. Aylward.

Cow, 2 years old—1, G. L. Hayden; 2, Wm. O'Brien & Sons.

Heifer, 1 year old—1, Wm. O'Brien & Sons; 2, G. L. Hayden.

Heifer, senior calf—1, G. L. Hayden; 2, Wm. O'Brien & Sons.

Heifer, junior calf—1, Wm. O'Brien & Sons; 2, G. L. Hayden.

Aged herd—1, Wm. O'Brien & Sons.

Breeder's young herd—1, Wm. O'Brien & Sons.

Champion bull — Diploma, Wm. O'Brien & Sons.

Champion female—Diploma, Wm. O'Brien & Sons.

Aberdeen Angus

With the exception of second prize on yearling heifer, which went to Jos. Praught, Cherry Valley, all prizes in this class were captured by Horne Bros., Winsloe Station.

Grade Beef Cattle

Cow, 4 years old—1, Wm. O'Brien & Sons, Windsor Forks, N. S.; 2, John W. Stewart; 3, Bernard McMillan; 4, Francis Chown; 5, A. A. McBeath.

Heifer, 2 years old—1 ,Wm. O'Brien & Sons; 2, J. H. Pierce; 3, Francis Chown.

Heifer, 1 year old—1, John Walker; 2, Almon Boswall; 3, G. L. Hayden.

Heifer calf, senior—1, J. H. Pierce; 2, Joseph Praught.

Heifer, junior calf—1, A. A. McBeath.

Special prizes given by Prince Edward Island Department of Agriculture to the person showing the greatest skill in judging ebef cattle—1, F. G. Cairns, Freetown; 2, Parvin Cass, North River; 3, Earl McRae, Charlottetown; 4, A. E. Ivys, Charlottetown; 5, Major McRae, Charlottetown.

Steers

Best single fat animal, 2 year old—1, Francis Chown.

Best pair fat animals, 1 year old—Joseph Praught.

Best single fat animal 1 year old—1, John W. Stewart; 2, G. L. Hayden.

Best pair steers' calves of 1916—1, J. R. Dennis; 2, Hoore Bros.

DAIRY CATTLE

Ayrshires

Bull, 3 years old—1, A. McRae & Sons, Charlottetown; 2, H. A. Robertson, Alexandria; 3, Henry Brennick, Lewis.

Bull, 1 year old—1, A. E. Ivys, Charlottetown; 2, Pope Noy, Hazelbrook; 3, Robert Stewart, Highfield.

Bull, senior calf—1, A. McRae & Sons; 2, Bert Brown, York.

Bull, junior calf—1, A. McRae & Sons; 2, Bert Brown.

Cow, in milk, 3 years old—1 and 2, A. McRae & Sons; 3, Bert Brown.

Cow, 2 years old—1, John Barr, Charlottetown; 2, A. McRae & Sons; 3, Bert Brown.

Heifer, 1 year old—1 and 3, A. McRae & Sons; 2, W. R. Yonker, Charlottetown.

Heifer, senior calf—1 and 2, A. McRae & Sons.

Heifer, junior calf—1, A. McRae & Sons; 2, Calvin Wood, Southport.

Aged herd—1, A. McRae & Sons.

Breeders young herd—1, A. McRae & Sons.

Champion bull—A. McRae & Sons.

Champion female—A. McRae & Sons.

Special prizes by Canadjan Ayrshire Breeding Association for best four animals, get of one sire—1 and 2, A. McRae & Sons.

Best two animals, progeny of one cow—1, John Barr; 2, A. McRae & Sons.

Jerseys

Bull, 3 years old—1, Wm. Clark & Son, North Wiltshire; 2, Wallace Stead, Highfield.

Bull, 2 years old—1, A. R. McKay, Charlottetown.

Bull, 1 year old—1, Frank Glydon & Son, Margate; 2, Wallace Stead; 3, William Clark & Son.

Bull calf under 1 year and over 6 months—1, William Clark & Son; 2, Thos. C. Latham, Picton, N. S.

Bull calf, under 6 months and over 3 months—1, William Clark & Son.

Cow in milk or calf, 3 years and upwards—1 and 3, Wm. Clark & Son; 2. Frank Glydon & Son.

Cow in milk or calf, 2 years old—1, Frank Glydon & Son; 2, Wm. Clark & Son; 3, Thomas C. Latham.

Heifer, 1 year old—1 and 2, Wallace Stead; 3, Frank Glydon & Son.

Heifer calf, under 1 year and over 6 months—1, Wm. Clark & Son, North Wiltshire; 2, Frank Glydon.

Heifer calf, under 6 months and over 3 months—1, Wm. Clark & Son; 2, Wallace Stead.

Aged herd—1, Wm. Clark & Son; 2, Wallace Stead.

Young herd—1, Frank Glydon.

Champion bull—1, Frank Glydon.

Champion female—1, Wm. Clark & Son.

Guernseys

Bull, 2 years—1, Roper Bros.; 2, Frank H. Roper; 3, John Walker.

Bull, 1 year—1, Roper Bros.; 2, Frank H. Roper; 3, Albert C. Foster.

Bull calf, under 1 year and over 6 months—1, Roper Bros.; 2, Frank H. Roper.

Bull calf, under 6 months and over 3—1, Frank H .Roper; 2, Roper Bros.

Cow in milk or calf, 3 years and upwards—1 and 3, Frank H. Roper; 2, Roper Bros.

Cow in milk or calf, 2 years old—1 and 3, Roper Bros.; 2, Frank H. Roper.

Heifer, 1 year old—1 and 3, Roper Bros.; 2, Frank H. Roper.

Heifer calf, under 1 year and over 6 months—1 and 2, Frank H. Roper.

Heifer calf, under 6 months and over 3—1, Roper Bros.; 2, Frank H. Roper.

Aged herd—1, Roper Bros.; 2, Frank H. Roper.

Young herd—1, Rober Bros.

Champion bull—Roper Bros.

Champion female—Frank H. Roper.

Holstein—Friesian

Bull, 3 years and upwards—1, W. M. Lea, Crapaud; 2, A. Roy Jones; 3, W. G. Gibson, Marshefild.

Bull, 2 years old—1, W. M. Lea.

Bull, 1 year old—1, Charles and Geo. A. Godfrey, North Wiltshire; 2, John Tweedy; 3, J. Walter Jones.

Bull calf, under 1 year and over 6 months—1 and 2, W. M. Lea.

Bull calf, under 6 months and over 3 months—1 and 2. W. M. Lea.

Bull calf, under 6 months and over 3 months—1, W. M. Lea; 2, J. Walter Jones.

Cow in milk or calf, 3 years and upwards—1, 2 and 3—W. M. Lea.

Cow in milk or calf, 2 years old—1 and 3, W. J. Gibson; 2, W. M. Lea.

Heifer, 1 year old—1, John Tweedy; 2 and 3, W. M. Lea.

Heifer calf, under 1 year and over 6 months—1 and 2, W. M. Lea.

"WHY are your cookies creations of charm?"
Said the young lover to Mary;
(Dimples were seen on her plump little arm,
Pretty and sweet as a fairy!)
This she responded, her utterance clear,
"Purity Flour is the cause of it, dear."

PURITY FLOUR

MORE BREAD AND BETTER BREAD

Heifer calf, under 6 months and over 3 months—1, W. G. Gibson; 2, W. M. Lea.

Aged herd—1 and 2, W. M. Lea.

Young herd—1, W. M. Lea; 2, John Tweedy.

Special Prizes

Given by Holstein-Friesian Association. Best 4 calves bred by exhibitor—1, Walter M. Lea; 2, John Tweedy.

Best 4 animals, either sex, get of one sire—1 and 2, Walter Lea.

Best 2 animals, either sex, produce of one cow, bred and owned by exhibitor—1 and 2, Walter Lea.

Best 2 animals, either sex, progeny of 1 cow—Walter Lea.

Champion Holstein-Friesian female—1, Walter lea.

Ayrshire Grades

Cow, 4 years old and upwards, in milk or calf—1, C. H. Robertson; 1, C. H. Robertson; Marshfield; Marshfield; 2, Wm. Gregory, St. Avards; 3, H. A. Robertson, Alexandra; 4 and 5, 9. McRae & Sons.

Cow in milk or calf, 3 years old—1 and 2, C. H. Robertson, Marshfield.

Heifer, 2 years old and under 3—1, A. McRae & Sons; 2, C. H. Robertson; 3, Robert Stewart.

Heifer, 1 year old—1, J. H. Love, East Royalty; 2, Stephen Holyerd, Highland; 3, Calvin Wood, Southport.

Heifer calf, under 1 year, over 6 months—1, A. McRae & Sons; 2, Calvin Wood.

Heifer calf, under 6 months and over 3 months—1, A. McRae & Sons; 2, Robert Stewart.

Jersey and Guernsey Grades

Cow, 4 years and upwards, in milk—1, Robert Stewart; 2, John W. Stewart; 3, Wallace Stead; 4, J. H. Pierce, Winsloe Station; 5, Robert Stewart.

Cow in milk or calf, 3 years old—1, James F. Roper; 2, J. H. Pierce.

Heifer, 2 years old and under 3—1, Stephen Holyrod; 2, and 3, Robert Stewart.

Heifer, 1 year old—1, James F. Roper; 2, A. McRae & Sons; 3, Byrne Bros., North Bay.

Heifer calf, under 1 year—1, J. L. Connolly, East Royalty.

Heifer calf, under 6 months—1, Wallace Stead; 2, J. H. Pierce.

Holstein Grades

Cow, 4 years and upwards—1, Chas. and Geo. A. Godfrey; 2, C. H. Robertson; 3, Donald McMillan, St. Avards; 4, W. G. Gibson; 5, Walter Lea.

Cow, 3 years—1, Chas. and Geo. A. Godfrey; 2, Walter Lea; 3, Henry Jones.

Heifer, 2 years old—1 and 2, Chas. and Geo. A. Godfrey; 3, Walter Lea.

Heifer, 1 year—1 and 3, Chas. and Geo. A. Godfrey; 2, Walter Lea.

Heifer calf under 1 year—1, Henry Jones; 2, Byrne Bros.

Heifer calf under 6 months—1, Henry Jones; 2, C. H. Robertson.

Special prize given by D. of A. for skill in judging dairy cattle—1, Major McRae, Charlottetown; 2, Earl McRae, North Wiltshire; 3, Joseph Pringle, Pownal; 4, William E. Jones, Hazelbrook; 5, Pawin Cass, North River.

SWINE

Berkshires

Boar, 2 years old—1, Peter Brodie, York; 2, G. W. Wood & Son, Hazelbrook.

Boar, 1 year old—1, J. R. Semple, Tatamagorichi, N. S.; 2, G. W. Wood & Son.

Boar, over 6 months and under 12 months—1, Peter Brodie; 2, G. W. Wood & Son.

Boar, under 6 months—1, A. E. Ings, Charlottetown; 2, Gordon L. Buntain, East Royalty; 3, S. Semple, Tatamagouche; 4, Stewart Bros., Murray River.

Sow, 3 years old—1, Peter Brodie; 2, J. R. Semple; 3, G. W. Wood & Son.

Sow, 1 year old—1 and 3, Peter Brodie; 2, S. Semple; 4, G. W. Wood & Son.

Sow, over 6 months and under 1

SISTER: READ MY FREE OFFER.

I am a woman.
I know a woman's trials.
I know her need of sympathy and help.

If you, my sister, are unhappy because of ill-health, and feel unfit for household duties, social pleasures, or daily employment, write and tell me just how you suffer, and ask for my **free** ten days' trial of a **home treatment** suited to your needs; with references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by its use. I want to tell you all about this successful method of home treatment for yourself, my reader, for your daughter, your sister, or your mother. I want to tell you how to cure yourselves at home at trifling cost, and without aid from anyone. Men **cannot** understand women's sufferings; what we women know **from experience**, we know better than any doctor; and thousands have proved there is **hope** even **for the hopeless** in my method of home treatment. If you suffer from pain in the head, back, bowels, feeling of weight and dragging down sensations, **falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating or unnatural enlargements, catarrhal conditions, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you** to send to-day for my complete **ten days' treatment** entirely **free and postpaid**, to prove to yourself that these ailments can be easily and surely conquered at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and **when you are cured**, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all.—**young or old.** To **Mothers** of **Daughters**, I will explain a simple home treatment which speedily and effectually cures green-sickness (chlorosis), irregularities, headaches, and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember **it costs you nothing** to give my method of home treatment a complete ten day's trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. **Is health worth asking for?** Then accept my generous offer, **write for the free treatment** suited to your needs, and I will send it in plain wrapper by return mail. To save time you can cut out this offer, **mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day**, as you may not see this offer again. Address:

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CASH or CREDIT
Terms: 20% Down and $1-$2-$3 Weekly.
We trust any Honest Person. Write for Catalogue to-day.
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

year—1, S. Semple; 2, J. R. Semple; 3, A. P. Ings; 4, G. W. Wood & Son.

Sow, under 6 monsth—1, J. F. McFarlane, Marshfield; 2 and 4, Peter Brodie; 3, A. E. Ings.

Pair of pigs, over 3 months and under 6 months—1, A. E. Ings; 2, Peter Brodie; 3, S. Semple.

Breeding sow with litter—1, Peter Brodie; 2, S. Semple; 3, G. W. Wood & Son.

Sweepstakes boar—1, J. R. Semple.

Sweepstakes sow—1 and Bank of Commerce Bronze Medal, S. Semple.

Pen—1, Peter Brodie.

Yorkshires

Boar, 2 years old—1, A. A. McBeath, Marshfield; 2, J. W. Callbeck, Summerside.

Boar, 1 year old—1, Stewart Bros.; 2, Geo. Crockett, York.

Boar, over 6 months—1, Geo. Crockett; 2, Ramsay Auld, Cove Head; 3, A. A. McBeath; 4, Geo. Crockett.

Boar, under 6 months—1, J. W. Callbeck & Son; 2 and 3, Stewart Bros.; 4, Geo. Crockett.

Sow, 2 years old—1 and 2, J. W. Callbeck; 3, Stewart Bros.; 4, A. A. McBeath.

Sow, 1 year old—1 and 3, J. W. Callbeck; 2, A. A. McBeath; 4, Geo. Crockett.

Sow, over 6 months and under 1 year—1 and 4, J. W. Callbeck & Son; 2, Stewart Bros.; 3, A. A. McBeath.

Sow, under 6 months—1 and 2, J. W. Callbeck & Sons; 3, A. A. McBeath; 4, Stewart Bros.

Pair of pigs, 3 months old—1 and 4, J. W. Callbeck & Son; 2, A. A. McBeath; 3, Stewart Bros.

Breeding sow with litter—1, J. W. Callbeck & Son; 2, A. A. McBeath; 3, Geo. Crockett; 4, Stewart Bros.

Sweepstakes boar—1, A. A. McBeath.

Sweepstakes sow—1, J. W. Callbeck.

Pen—1, J. W. Callbeck.

Chester Whites

Boar, 2 years old—1, F. W. Prowse, Union Road.

Boar, 1 year old—1, Mrs. Wallace Wood, Alexandria; 2, Ramsay Auld; 3, Henry McCalum; 4, Wallace Stead.

Boar, 6 months old—1, Mrs. Wallace Wood; 2, A. H. Boswall; 3, Wallace Stead; 4, F. W. Prowse.

Boar, under 6 months—1, A. E. Ings; 2, F. W. Prowse; 3, Pope Cook, York; 4, R. L. Day, York.

Sow, 2 years old—1, R. L. Day; 2, Mrs. Wallace Wood; 3, Wallace Stead; 4, F. W. Prowse.

Sow, 1 year old—1, Wallace Stead; 2, Mrs. Wallace Wood; 3, A. H. Boswall.

Sow, 6 months old—1, Pope Cook; 2, F. W. Prowse; 3, A. H. Boswall; 4, Wallace Stead.

Sow, under 6 months—1, Wallace Stead; 2, A. E. Ings; 3, F. W. Prowse; 4, Pope Cook.

Pair of pigs, 3 months old—1. A. E. Ings; 2, F. W. Prowse; 3, Walter Stead; 4, Pope Cook.

Breeding sow wit hlittle—1, Wallace Stead; 2, Mrs. Wallace Wood; 3, F. W. Browse; 4, Pope Cook.

Swewpstakes boar—Mrs. Wallace Wood.

Sweepstakes sow—Wallace Stead.

Pen—Mrs. Wallace Wood.

Any Other Pure Bred

Boar, 2 years old—1, Edward Currie, Fairvue.

Boar, over 6 months—1, David Reid, Montague.

Boar, under 6 months—1, A. McRae & Sons.

Sow, 2 years old—1, David Reid; 2, A. McRae & Son.

Sow, 1 year old—1, A. McRae & Sons.

Sow, under 6 months—1 and 3, David Reid; 2, A. McRae & Sons.

Pair of pigs, 3 months old—1, David Reid; 2, A. McRae & Sons.

Breeding sow with litter—1, David Reid.

Sweepstakes boar—1, Edward Currie.

Sweepstakes sow—1, A. McRae & Sons.

Pen—1, David Reid; 2, A. McRae & Sons.

Export bacon hogs, pen of two, pure breds, 160 to 220 pounds—Section 1—1, Geo. Crockett; 2, Stewart; 3, R. L. Day, York; 4, Wallace Stead.

Export bacon hogs, pen of two, any cross or grade, 160 to 220 pounds—1, Stewart Bros.; 2, A. A. McBeath; 3, Geo. Crockett; 4, R. L. Day; 5, Joseph Praught.

Messrs. Davis & Fraser special for two best finished hogs to dress not more than 125 pounds—1, Peter Brodie; 2, George Crockett; 3, R. L. Day; 4, Joseph Praught.

SHEEP

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Ram, 2 shears and over—1, S. L. Boswall; 2, Samuel C. Lane, Mt. Mellick; 3, A. C. Boswall.

Ram, Shearling—1, A. C. Boswall; 2, S. L. Boswall.

Ram, lamb—1, S. L. Boswall; 2 and 3, A. C. Boswall.

Ewe, 2 shears and over—1 and 3, S. L. Boswall; 3, A. C. Boswall.

Ewe lamb—1, S. C. Stewart, Dunstraffnage; 2, S. L. Boswall; 3, S. C. Lane.

Pen—1, S. L. Boswall; 2, S. C. Lane; 3, A. C. Boswall.

Cotswolds

Ram, 2 shears and over—1, John Tweedie; 2, G. W. Wood & Son, Hazlebrook.

Ram shearling—1, John Tweedy; 2, H. Tweedy.

Ram lamb—1 and 2, John Tweedy; 3, H. Tweedy.

(Continued on page 18)

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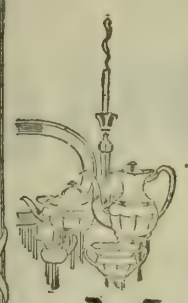
Deep down in her heart, every woman longs for a beautiful Service of Silver for her dining room. It may be "solid"—it may be rich plate—it may be ornate or chaste, elaborate or plain. But, whatever the degree of fineness or design, it must be complete, down to the smallest piece.



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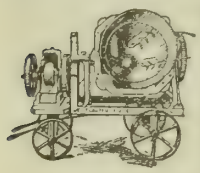

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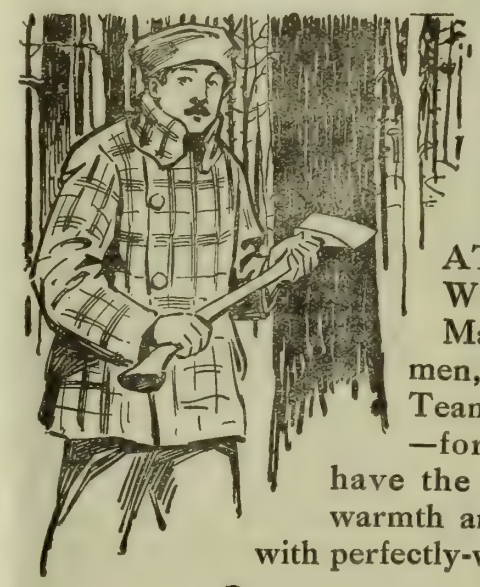

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EFFECT OF SPRAYING POTATOES

The advantage derived from spraying the growing potato crop is so well established that it does not require further demonstration. There are, however, some points in connection with the operation upon which precise information is useful. For instance, is it better to spray more than once, and if not, should the single spraying be early or late?

The following experiment, which was conducted by the experts of an agrticultural college, throws light on these points:

24 lb. of sulphate of copper
30 lb. of pure washing soda
120 gallons of water

per acre, and four plots were arranged ta each of the different centres.

Plot 2.....Unsprayed.
Plot 2.....Sprayed once, early.
Plot 3.....Sprayed twice.
Plot 4.....Sprayed once, late.

The early sprayings were all performed between July 6 and 16, and the late sprayings between July 21 and 29.

The result proved that the spraying was attended with success in all cases; both the single sprayings produced a large increase in the yield, but twice spraying was decidedly the best, as shown by the following table:

In round figures, the average weight of potatoes per acre was—

	Marketable. Tons.	Small. Tons.	Diseased. Tons.
Unsprayed	8	1	½
Sprayed once, early	9½	1	½
Sprayed twice	10¼	¾	½
Sprayed once, late	9	1	½

Owing to the increased vigour imparted to the plants by spraying the growing period was in the quantity of marketable potatoes almost lengthened, with the result that a great increase invariably follows.

As regards disease, it cannot be said that the spraying did much more than check it, for there was usually not very much difference between the weights of diseased potatoes on the sprayed and unsprayed plots, and frequently it is only by taking into consideration the total weights on the different plots that the proportion of diseased potatoes can be shown to be reduced by spraying.

SAN JOSE SCALE

Experiments with ripe apples infested with San Jose Scale have been going on for several years in the University of Illinois, and the report of the work contained in Bulletin No. 180 presents a few suggestions that will be of interest to fruitgrowers. The summary with which the Bulletin closes states that the insects may live and reproduce freely on fruits plucked from the tree and kept at ordinary room temperatures, and that living young may continue to be born under such conditions during a period of eight weeks.

Infested apples taken from cold storage in December gave similar results, young being produced on the apples for 25 days.

Breeding experiments were carefully conducted at the station, the object being to ascertain the rate at which the insects will multiply. On the data so obtained it was computed that under thoroughly favorable conditions one scale could in a year multiply to over 32 millions.

Spraying with various preparations of lime and sulphur, and with two brands of miscible oils justify the usual preference for the sulphur solutions, especially because of their more prolonged effect when applied in spring. The solutions made at home were found equally as effective as those made up by recognised manufacturers and available on the market as ready for the addition of water. The experiments also illustrated the great advantage of spraying early—before an orchard becomes heavily infested—and they also furnished evidence that spraying in spring is much more effective than spraying in autumn. Indeed, spring spraying is 20 per cent. better than fall spraying. "The possibility of redeeming and restoring a badly infested orchard and maintaining it in a good condition, with one or two sprayings per year," adds the bulletin, "was well established by these operations."

TO PREVENT CABBAGE BURSTING

Many persons growing their own vegetables have experienced considerable annoyance in having a large number of fine heads of cabbage to burst before the vegetable can be used or marketed.

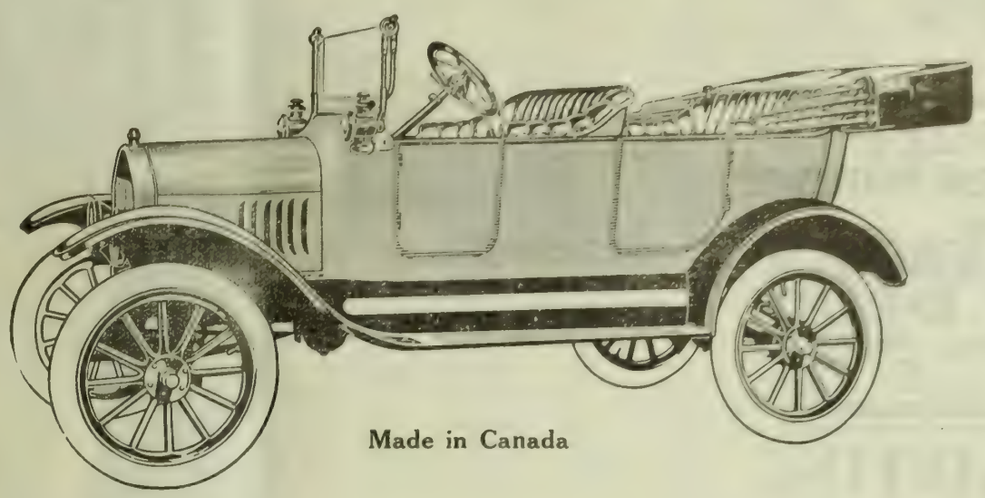
The bursting is caused by rapid growth, and usually occurs after a warm rain which has followed a dry spell. It is surprising how rapidly the heads will split and push out from the center, which is damaging unless the cabbage is used at once.

To prevent cabbage from bursting, go to each head, and pull it just enough to break a large number of the small rootlets, but not enough to allow the head to fall or lean very much to one side. This will lessen the amount of moisture and food taken into the plant and the development of the head, and consequently the bursting will cease. In most cases the cabbage will remain perfect and uninjured, and can be sold or used before any damage results.

Heads of cabbage about to burst, or even those showing the first split, can be kept for several weeks without damage by simply following the above instructions carefully.—J. T. T.

It seems good to have apple season back with us again. There is no other fruit that can displace them. A farm home is hardly complete without an orchard with quite a range of varieties. When I go into the orchard I like to wander about like a sheep and taste this one and that one. Satisfaction is the return from the home orchard and I get the most out of a variety.

Deep ploughing, subsoiling, and underdraining are excellent precautions against drought. Subsoiling is of no advantage unless assisted by good drainage, and the deep tillage not only carries off the surplus water during wet spells, but supplies moisture during periods of drought by capillary attraction of the soil, as well as allowing the roots of plants to penetrate deeper.



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DAIRYING.

MILK PRODUCTION

The following remarks on the observance of cleanliness and correct methods in all matters pertaining to the production of milk may not prove out of place, seeing that milk and its relation to the public health is a question of long standing. While science is to a considerable extent essential in dairying, it is no sort of good unaccompanied by practice. In truth, practice and science must ever go hand in hand to attain a useful end.

The Cow Stables

The best material for the floor of all cow-houses or byres is undoubtedly concrete, as it will admit of easy and efficient washings. The utmost attention should be paid to the system of drainage, which is best provided ni the form of surface drains running into a common channel. Cleanliness in the interior of the cow-house is as much requisite as in the dairy itself and the methods of ventilation must be on approved principles, the windows securing at the same time an abundance of light. Those structures admitting a downward draught on the animals are clearly injurious to the health of the cows, and must be condemned on that score. The best windows are those admitting an upward current of air to circulate round the top of the building, and so replace the bad air without causing dangerous draughts. On a great majority of farms the manure heap is to be found in close proximity to the cow-house, and the undesirable odours from this source can be clearly detected in the byre. There can be no doubt as to the evil influences thus communicated to the milk, and where new buildings are being erected or alterations are being planned, it will be well to bear this in mind. A further source of depreciation in the purity of new milk is to be observed in some situations where the entrance to the barn or yard resembles a miniature bog, the cows having to plunge up to their hocks in thick mud when entering the yard. This can be prevented by making a well-drained entrance with chalk or rubble.

Health of the Herd

It is essential that there should not be a single unhealthy cow in the dairy herd. Apart from the risk devolving upon the consumer who is supplied with milk from cows affected with tuberculosis or other diseases, such animals constitute a great menace to the dairy farmer, the disease with which they are infected being easily communicated to the other members of the herd. Before milking, the cows should have their sides, udders, and teats well cleaned, and the first few squirts from each teat, which are of a very watery nature, and contain an excessive number of bacteria, should be allowed to fall to the ground. Considerable importance has been attached to this latter practice whenever the question of clean milk production has arisen.

Milking

With regard to cleanliness, the milker should be above reproach, both in person and clothing. The hands and nails must receive special attention in this direction, and it is not too much to enforce washing before milking is commenced. A thoroughly clean overall or apron should cover the ordinary clothes when milking, and in no case should anyone be allowed to milk or handle milk who in his or her home surroundings is placed in proximity to any infectious disease. Milking with wet hands or the practice of "wet milking" must be rigorously excluded from every dairy. It is both dirty and dangerous, and is too often the result of habitual method which has not been checked in time. By placing their heads against the cows when milking many milkers introduce impurities in the form of dirt, hair, and dust into the milk pail, and this is, therefore, a practice to be condemned. The cow-house should under no circumstances be cleaned out immediately before milking, neither should hay be served in the manger whilst the milk is being drawn. Dust from hay quickly finds its way into the milk buckets, and carries with it germs which naturally are not conducive to the improvement of the milk.

Utensils

All utensils and pails must receive a thorough scouring before use, for it is very necessary that everything with which milk comes in contact should be kept scrupulously clean, and, with this object in view buckets, cans, and all dairy utensils should be designed without crevices or corners in which dirty milk might be retained after cleansing operations. Milk is much more easily removed from vessels before it has become dried upon the surface; so as soon as they are finished with they should be rinsed out with lukewarm water, even though it is not convenient at the time to finish the washing-up process. After rinsing, they should be subjected to a thorough scrubbing in water which contains a little soda. It is not advisable to use too much of this commodity, as it has a tendency to eat away the tin, and rust will consequently quickly set in. Next rinse out with warm water in order to eliminate all traces of the soda, and then set up in an open place to allow fresh air and sunlight to gain access. The milking stools also should receive a regular boiling or scouring at least once a week.

Cooling the Milk

The milk, as soon as it is drawn from the cow, should be removed to the dairy and cooled, subsequently being kept at a temperature as low as possible. The object of cooling milk is to retard bacterial activity. It does not, of course, actually kill the germs, but it prevents their multiplication. When milk is drawn from the cow it is at a temperature of 100 degrees Fahr., which is the most favourable temperature for bacterial activity: consequently, if the milk is allowed to stand for some time without being cooled, all germ life, including the lactic acid bacteria, which is responsible for sour milk, very quickly increases, doubling and trebling itself in a comparatively short time. It will, therefore, be easily understood how absolutely essential to the preservation of pure milk it is for it to be cooled immediately when drawn.—Agrostis.

MILK AS A STIMULANT

One of the most recent discoveries of the Pasteur Institute of Paris has to do with stimulating qualities of milk. While milk has always been considered an excellent tonic and known to be exceptionally rich in food value, it was not until the Pasteur Institute conducted a number of conclusive experiments, that the stimulus

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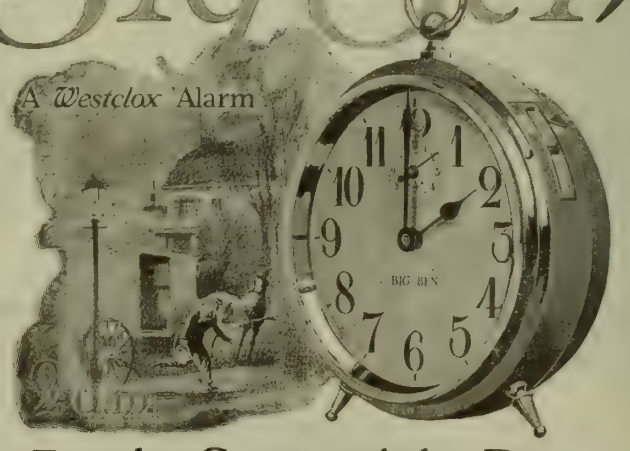

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Out of bed like a boy going fishing—nudges Big Ben to a hush—takes up the tune as he whistles to work.

You've heard that patter of nimble feet—the clink of bottles in the wire tray—the rattle of boxes, of cans and ice—the giddap—the wheels—the merry tune—all unmindful of the world at sleep. You've wondered.

Try Big Ben *yourself* a little earlier. See how he'll bring *you* the cream of the day—rich morning hours that start you right and stretch out till night with minutes aplenty for every task. And *you'll* take up his tune and smile through the day.

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in milk became a known quantity. For a number of months milk has been given the French soldiers in the trenches and to many of them it has been the one and only stimulant. The effect which the milk has produced has more than justified the claims which the Institute made for it.

It is claimed that the stimulating effect of milk is especially notable when given to soldiers just before a big battle or a dangerous charge, and also when administered to the troops when in great fatigue. The advantage of the milk stimulus over the alcohol stimulus so extensively advocated in previous years is that there is no bad after effects, and the keenness of the senses is in no wise impaired nor the coolness of judgment affected.

The knowledge that milk is a stimulant of no mean force will come as something of a shock to those who have hitherto considered it synonymous with all things mild and peaceful. It is somewhat difficult to believe that the chief product of the patient and gentle cow should contain such an element of forceful stimulation. But, as proof of the contention we have the word of the world's greatest research institutes backed up by conclusive experiments in a place where stimulation of the most efficient sort is needed.

BULL'S PREPOTENT VALUE

Can a bull be worth nearly $3,000 in one year in a dairy herd?

It has recently been shown by some records of the Ohio Experiment Station dairy herd that one bull produced daughters average 153 pounds more butter fat annually than their dams. If ten of these daughters produced milk for six years, the total production of this sire would be worth $2,750 more than that of a bull that produced no increase, if butter fat is worth thirty cents a pound.

Since the value of the bull can be determined only by the milk and butter yields of his daughters, it is not a good plan to sell the dairy sire until his daughters have been tested. Buyers should not discriminate against an old bull if he has some high producing daughters, for his value cannot be determined until he is at least four years old—Kansas Farmer.

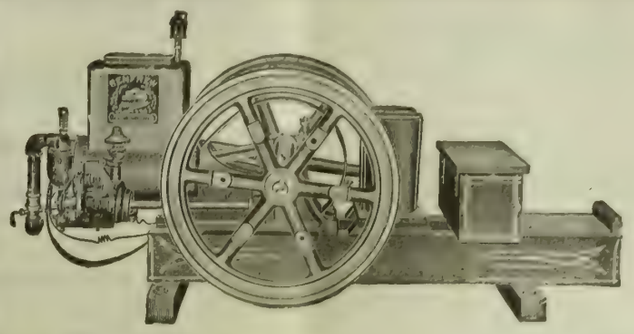
SHELTER AND COMFORT

The colder the weather the greater will be the requirement for food to make up for the lack of shelter provided. The dairy cow is more susceptible to the lack of shelter than either the cow being maintained through the winter or the fattening steer, on account of the small amount of flesh she carries, and the large quantity of water she must consume because of her milk production. There are no exact figures showing just what the loss would be from the lack of shelter, but it is safe to say that it would be great, depending upon the severity of the weather and the amount of milk produced by the cow in the beginning. It would be impossible to maintain a cow at a high level of milk production without giving her protection from the weather.

CREAM TEST AND BUTTER FAT

How much is the test of cream that gives five pounds of butter, unsalted, from a gallon?

A gallon of cream will weigh approximately eight pounds while a pound of butter will contain about 80 per cent. fat. The five pounds of butter will contain four pounds of fat while the rest will be largely water, a small portion of casein and traces of other matter. To get four pounds of fat from the eight pounds of cream would require half the cream to be fat or 50 per cent. Therefore, cream testing 50 per cent. will make five pounds of butter to the gallon.



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It starts without cranking

It will do all the work that any other gasoline engine will do—and it has some special features that Canadian farmes will specially appreciate.

For example, it is a very strong engine, the 6 h.p. Renfrew Standard being almost as large as the average 8 h.p. engine. Canadian farming conditions require a rugged, powerful engine, and the Renfrew Standard fills the bill.

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Dual Ignition. The Renfrew Standard has two separate ignition systems. 1: batteries. 2: high tension magneto. Having two systems the engine is doubly reliable.

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LIVE STOCK.

THE DUAL PURPOSE COW

Professor W. H. Dalrymple, of Baton Rouge, discusses in a circular issued by the Louisiana State University the question whether there is in the States agriculture a place for the dual purpose type of cattle as represented by the Red Poll and Devon breeds. He says:

Close observation, carefully trained; correct information, accurately obtained; and sound judgment, based on such observation and information, intelligently formed, should be the essentials in deciding upon a business policy, whether mercantile, banking, farming, or any other. This is especially true where new lines of effort are proposed, and practical experience may be lacking; and the production of live stock, along the best and safest lines, is one of the new business propositions confronting our Louisiana farmers. In the different branches of farming activities there seems to be a greater diversity of opinion concerning live stock than any other, and more especially, perhaps, in the case of cattle, and this diversity seems, in large measure, to be based, not so much upon the suitability of certain breeds to meet certain conditions, but rather upon the likes and dislikes of the individual regarding particular breeds, irrespective of their suitability or adaptability to local conditions. Or, in other words, the purely business side of the proposition is often lost sight of, or, at least, subordinated to individual taste. It is under such conditions as these that good, sound judgment is required by the farmer in making his decision, as a wrong or careless step at the outset may mean the difference to him between success and disappointment.

It is the right and special prerogative of the farmer to have his own opinion in such matters, of course, but few, as yet, are familiar with the different types and breeds of cattle, the suitability of each for a specific purpose, or to successfully meet local conditions, and his endeavor should be to avoid making errors in selection, which may in some cases prove quite costly.

Balancing Farm Operations

Again, many farmers have not yet reached the point where they carefully figure out how best to balance their farming operations. If they should decide upon cattle for their places, they are often likely to want, or have, too many animals, instead of the approximate number required to meet their immediate conditions, and that the capacity of their farms can take care of and properly maintain. This, it seems to me, is a present tendency and danger that should be guarded against. The farmer should understand that cattle on the diversified farm are a part of the system and have a very important place to fill in enhancing the value of the feeding materials raised, and in providing manure to return to the land to maintain soil fertility and increase crop production. However, these results, which every good farmer desires, may readily be interfered with, either by the possession of more animals than can be profitably provided for by the farm, or by keeping fewer than the feed crops grown would legitimately warrant. In the first instance, the surplus number above those which the farm could profitably maintain may be the means of rendering all of the cattle unprofitable for the lack of sufficient feed to properly develop them. In the second instance, too few cattle kept may lead to a large part of the feed crops having to be disposed of from off the farm, in the raw state, for want of a sufficient number of animals to market them as a finished product and at an enhanced value, besides the loss of a great deal of valuable manure to the land to add to its fertility and improve its physical conditions. It may be seen therefore that in order to practice diversified farming profitably, which means intelligent farming, a balance is necessary, not only as regards the different kinds of crops grown, but equally so as concerns the number of animals required to profitably handle many of these crops from the standpoint of marketing.

Good Types of Cattle

It may be said that all types and breeds of cattle are good, but they are not all equally good nor equally suitable for all purposes and conditions. Again, all farmers are not able to afford the purchase of a foundation herd of all pure-bred animals, but most farmers could probably afford to buy a male animal of pure breeding to grade up and improve the cattle on his place, and in a short while develop a herd of high-grade animals suitable for his special purpose, and which is the method suggested by the writer for many years. The breeding of pure-bred cattle or pure-bred stock of any kind is a business of a special character; requires capital and plenty of experience, and is beyond the practical operation of the majority of our farmers. It is the few who are breeders who maintain the supply demanded for pure-bred stock, but the rank and file are those who expect to raise cattle as a part of a system of diversification, and to supply the markets with beef and dairy products. The three main factors to be considered by the farmer before making his selection should be (1) farm conditions, (2) transportation facilities, and (3) suitable and easily accessible markets. To the man with plenty of rich land, an abundance of nutritious pasturage, and grain and forage crops in addition, whose inclination runs along the lines of beef production, from the purely beef type of cattle, and where the facilities for marketing are all that could be desired, his choice would naturally be one or other of the large beef breeds. On the other hand, the farmer who has all the necessary facilities for transportation, marketing, etc., and who wishes to specialize in dairying, his choice should be one of the breeds which conforms strictly to the dairy type of cattle.

Room for the Dual Purpose Cow

I am of the opinion, however, that there is a class of farmers in the S tate, especially on our hill lands, who may lack the necessary conditions to make beef production profitable from the large beef breeds, and who are inconveniently situated, both as to transportation facilities and accessible markets, for strictly dairy farming, who would be best suited with what is known as the dual-purpose type of cattle. The term "dual-purpose" has received a good deal of criticism from the devotees of the purely-beef and the pure-dairy types of cattle. Nevertheless, records of some of the breeds conforming to the dual-purpose type go to show that they are no mean producers of milk and butter-fat, and that in beef production they are not so very far behind some of the purely-beef breeds, except, perhaps, in size or total weight. In fact, if we take the trouble to investigate, it will be found that in many parts of Europe, for example, the real farmer's cow is the dual-purpose animal, because of its milk-giving and beef-producing tendencies. It is so, especially in parts of

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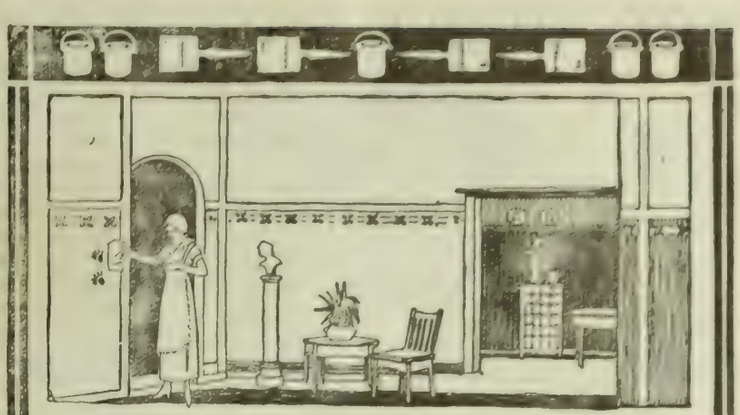
England, where the milking type of the Shorthorn (the largest of the dual-purpose type) is to be found on every farm for both dairy and beef production. In the counties of Norfolk and Suffolk, in England, the home of the Red Polls, it is this breed which furnishes the milk, butter and beef for the people. And the same may be said of the Devon cattle in the English county of that name, and in the surrounding territory. So that, while no other breeds will compare with the special purpose types in milk, butter-fat, and beef production, espectively, it seems to the writer that there are many localities and existing conditions in the State in which the general-purpose animal would be more profitable, and fit in better with the conditions, than either of the extreme or special types.

Take, for example, the farmer who does not have the facilities for specializing in either dairying or beef production on a paying basis. He is miles from any railroad, and a market for such products is altogether inaccessible. It is his desire, however, to keep a reasonable number of cattle on his place as a part of his system of diversification incidentally to supply his own household with milk and its products, but mainly to increase the value of his feed crops, including his pasturage, of course, furnish manure for the land, gradually improve the quality and increase the number of his herd by raising good calves, the steer progeny of which, when in condition, are likely to command good beef prices on some local market, etc. It is under such conditions, it would seem to the writer, that the dual-purpose animal becomes a special-purpose one for this class of farmer. The heavy milk producers would be a loss to him, because he would be unable profitably to consume the product, and the steer calves of this type of cattle are unprofitable in the beef market. The large, heavy, beef-type of cattle would hardly be profitable, as their milk production is limited; they require large amounts of nutritious feed to put them in good shape, and unless they are in good condition, either as feeders or as a finished marketable product, and a suitable market for them convenient, success in the growing of them, on farms such as have been alluded to, would be extremely doubtful.

But the animal that furnishes enough milk for home consumption, and plenty in addition to raise vigorous calves; that can fill all the requirements for which cattle are usually kept on the diversified farm, and from which the farmer can annually raise a small bunch of good steer calves that he can sell locally at satisfactory prices, is, in our opinion, the type of cattle that our hill farmers, or many of them at least, stand most in need of; and it is here where the Red Poll and the Devon breeds seem to have a place to fill.

Red Polls

Now let us see what some of the authorities have to say concerning these two breeds, taking up the Red Poll first: I take the following from the Cyclopaedia of American Agriculture:—"Red Poll cattle are a dual-purpose breed, and have made quite a number of very creditable records in both dairy and slaughter tests. At the International Live Stock Exposition, Chicago, in 1906, the highest percentage of dressed carcase to live weight was given to a two-year-old Aberdeen Angus (which is a purely beef type) with 69.5; while a two-year-old Red Poll steer came second with 69.2 per cent. At the Wisconsin State Fair, in 1907, in a three-days' test, a Red Poll cow gave 125 pounds and 12 ounces of milk, and made 5.336 pounds of butter-fat. For crossing and grading, Red Poll pulls have been used extensively and with good results. They transmit the colour and polled character uniformly, and may be used profitably on either dairy or beef common stock."



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I next quote, briefly, from "British Breeds of Live Stock," by Prof. Robert Wallace, of the University of Edinburgh, and one of the world's authorities on the subject. He says:—"Steers (Red Poll) put up to finish at about two years old, when they have stopped rapid growth, fatten quickly and their carcases command satisfactory pr.ces

(Continued on page 20)

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THE HORSE

THE STALLION TO BREED FROM

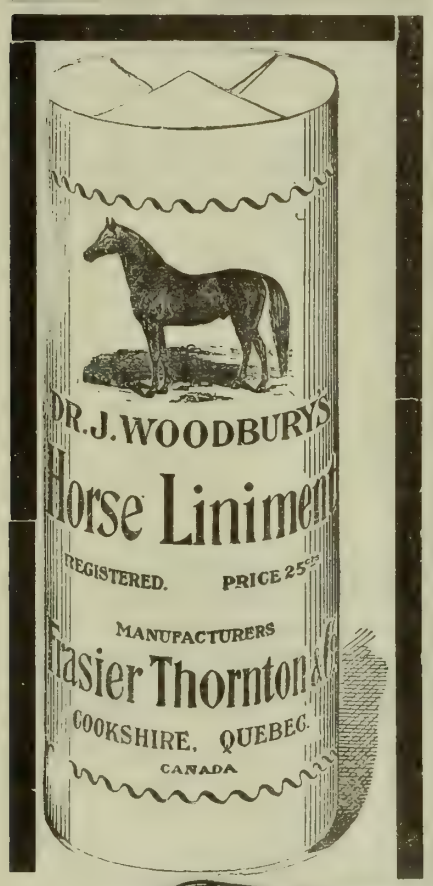
Since the ability to stamp his characteristics on his progeny is the only really important point in selecting a sire, improvement of our stock can only result from our ability to pick out such a sire and consistently breed to him. The one sure and best method is by carefully observing the progeny got by the horse from our own and other mares in the vicinity. Too frequently, however, we are not table to do this, and must make our selection wholly on the appearance of the horse. Stallion license laws have created a constantly shifting population of scrub or unsound horses, and too much discrimination cannot be used in getting not only the right type but sound pedigreed sires.

As stated, prepotency is essential, and it is well indicated by certain characteristics. Boldness of outlook, free spirited action and strong masculine appearance mark the horse with ability to pass on his characteristics to his foals. We well remember having seen a black two-year-old Percheron colt at the head of his class last summer that we venture to say will leave colts like himself. He was a slashing good colt that put on his own show. Given his head he got up and moved with such freedom and precision, strength and power, and brought his feet down so solidly that he simply made everybody look at him. He was "looking for a bigger town." This is the result of breeding, and with good conformation and soundness one of the first things to be looked for. A horse with a sleepy appearance, a mare's head and a ewe neck may do for the other fellow to breed from, but not for the man who wants real character in his colts.

In spite of supposed evolution of horse demand a decided premium is put on the big draft horse. And it will doubtless continue to be. In breeding for the big ones we get lots of the class called chunks. In other words, we need horses of size for sires. The bigger the better, provided we can keep a fairly good degree of quality and style associated with it. We would prefer, however, a horse of 1,600 pounds, closely ribbed and fairly compact conformation, good quality and active style, to an 1800-pound or 2,000-pound horse of open conformation, slovenly gait and coarse quality. The reason is that the get of the former horse are apt to be good with the one main drawback—lack of size, but they are always in demand at fair prices, while the get of the big horse in this case may be anything at all and not worth nearly as much on an average as the other class. Long couplings, short ribs, slack loins, narrow and shallow chests and light quarters are things n ot to have in a horse. A wasp-waisted stallion will get too many colts like himself. Furthermore, violent crosses, i. e., crossing too big a stallion on a little mare is apt to beget scrubs, with something altogether disproportionate about them.

Quality is of the very greatest importance. It is best indicated by fineness of hair on both body and legs, fineness of the skin, clean, flat nature of the bone or tendons of the legs, distinctness of the veining after exertion, and general refinement of conformation. No one can altogether define quality. It must be seen to be appreciated, and it delights the eye of a real horseman. Too frequently in our show rings we see small, undersized horses bragged about for their quality, when too often it is under development. Not long ago we saw a runt of a three-year-old Clydesdale win a second place in a class of big horses simply because his quality was superfine and his action flashy. He later competed for championship against a two-year-old that was not only considerably larger but almost his equal in quality, but fortunately didn't win here.

Unsoundness, of course, ought not to be countenanced at all, i. e., hereditary unsoundness. Bone spavins, ringbones, sidebones, thoroughpins and bog spavins are the most common, and anyone can easily pick them out with the eye or by running the hand closely over the hocks, fetlocks and hoofheads. In fact, cleanness of limb is essential. The first three unsoundnesses are the worst. All should be avoided. Unsound horses will beget colts predisposed to disease, and nothing reduces the market price of a horse like a set of unsound legs.



WHEN FOALS NEED PROTECTION

Many foals fare worse in early fall than they did in midsummer. During the hard summer work when the mare was in daily use her foal spent the daytime in the stable away from the flies. Now that the work is less pressing perhaps the old mare is turned out to pasture day and night with her foal, and relieved of hard work. It is fine for the mare. She gets to rest and gain flesh. But the foal, unused to the constant daytime attacks of bloodthirsty flies, suffers great pain. It is kept in such a steady state of agitation and fly-fighting activity that it does not thrive. Then when weaning time comes and another obstacle is thrown in its way, a very good-looking summer foal may dwindle away to a puny-looking weanling.

Flesh and thrift of foals must be maintained at this time of year. The season for rapid, cheap pasture gains is rapidly passing. If the foal is thin and weak at weaning time it will be below average all winter unless particular attention and the choicest feeding are given. The youngster that grows right up through the fall, and is eating a lot of grain before weaning will keep on thriving with plain oats and alfalfa hay or other similarly nutritious farm grain and hay. A selection of temptingly-flavored feeds and sometimes the addition of cow's milk are often required to get the stunted foal into thriving condition during cold weather. It is much easier to keep the youngsters coming on rapidly now and fly-protection helps very much.

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Try an Ad in the FARMER

POULTRY.

GIVING HENS A CHOICE OF FOOD

Perhaps the best way to find out what hens like is to ask the hens. At least that was the plan followed by the Missouri Agricultural Experiment Station in recent tests in which weighed amounts of various feeds wede placed before the hens and what they left of each kind of feed was weighed back, so it was possible to tell what kinds of feed they had eaten and what they had passed by. At the same time a careful record was kept of the number of eggs laid by each hen and her changes in weight.

The test seems to show that the hen knows better than many people how to select the food that will help her most in laying eggs and keep her in the best condition. Some old ideas with regard to poultry feeding were proved sound and some others were discredited by the hens. They almost all showed a decided preference for wheat, which is very generally used as a poultry feed. Kafir stood next in popularity, followed by corn and corn meal, but oats and sunflowers were not eaten as much as many people would have expected, probably because the hen is not able to digest much food containing a high percentage of crude fibre. The hens that did eat sunflower seed were seen cracking them and eating only the softer portions inside, possibly because they wanted to get rid of the crude fibre in the shell.

Bran is often used in poultry feeding but the hens in this test which could get other feed almost always chose it instead of bran. Alfalfa leaves were tried but not eaten to any great extent.

Animal food of some kind, such as beef scrap or sour milk, is generally regarded as very necessary for laying hens but most of the hens in this test did not eat much more beef scrap while laying than while not laying. Two actually ate more of it when they were not laying.

Other tests at the Missouri Station have shown that the use of either beef scrap or sour milk makes the hen's egg record at least twice as good as though she were fed no animal feed whatever, and that sour milk is slightly better than beef scrap for this purpose, in addition to being cheaper and easier to get on most farms.

TREATING DIPHTHERITIC ROUP

This canker of chickens, which is more commonly termed "diphtheria" or "diphtheritic roup," is often clearly an advanced stage of roup. It is indicated by a cold accompanied by whitish and yellowish patches on the back of the throat and in the mouth. A false membrane is apparently formed by these patches and cannot be torn off without causing bleeding. As diphtheria is extremely infectious, it is decidedly the best course to kill all cases at once.

However, if the individual bird is of particular value it may be isolated and the patches on the throat swabbed with 50 per cent peroxide of hydrogen or 5 per cent. creolin with a small bit of cotton wool wound round a stick. If great care is exercised, 20 per cent. carbolic acid or 20 per cent. creolin may be painted on the patches, but neither should be allowed to touch the normal skin.

The roupy symptoms of cold, running at the nostrils, sneezing and the swollen and inflamed eyes may be treated with 5 per cent. carbolic acid, 50 per cent. peroxide of hydrogen, or 2 per cent. permanganate of potash. In using the latter the fowl's head may be dipped for a few seconds in the solution. All sick fowls must be isolated from the rest of the flock and the premises disinfected with any reliable disinfectant. However, unless the sick fowls are especially valuable, kill and burn them or bury them deeply.

To-night!

Try a cup of this famous cocoa before retiring. Next morning note the vigor it imparts. The reason is simple — the best cocoa beans are highly nutritious and wholesome. Perfection Cocoa is made from positively the finest cocoa beans grown — blended skillfully.

It's a good habit — a cup of cocoa a night — but be sure that it is

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A-22

DISPOSE OF MALES AS BROILERS

Approximately 50 per cent. of the chicks hatched every year are cockerels. As only a few of these are retained as breeders, this means that millions of male birds must be disposed of between midsummer and fall. Quite naturally it happens that there is a large surplus of stock on the fall market with prices ruling lower than at any other season of the year.

For broilers, the early hatched broods reach the desired weights before the large supply becomes available, consequently bringing in the best revenue. Broiler weights vary in different sections of the country, all depending upon the season of the year. Each producer should keep in touch with the local market situation and act accordingly. We aim to produce stock weighing about one to two pounds each, live weight.

A few weeks previous to killing, the birds are kept quiet and comfortable and are not permitted to take much exercise. Our ration consists of considerable corn meal, middlings and animal food fed in moist condition. In this form it seems to induce a more rapid growth. We also feed large quantities of skim milk.

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3 pounds of ***deliciousness,*** when eaten on Griddle Cakes, Waffles, Muffins, Hot Biscuits or good wholesome Bread.
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FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

THE MYSTERIOUS DISAPPEARANCE

By Erskine M. Hamilton

"Where is Sallie Landor?" No one could answer that question, although pallid lips asked it over and over again. Sallie Landor, a beautiful girl and daughter of a well-known business man, had mysteriously disappeared. She had vanished from her home as though the earth had suddenly opened and swallowed her. When her father came from his store that June evening he found his daughter in the kitchen, preparing supper. Passing on to the sitting room he saw Mrs. Landor for a few minutes, then returned to the kitchen. The supper was on the stove, apparently ready to be taken up, but no one was there to care for it.

"Where is Sallie?" he asked, turning back and speaking to his wife. "I want my supper, for I must go back to the store tonight."

"Why I thought she was in the kitchen," replied Mrs. Landor. "Probably she has gone to one of the neighbors for something. I'll be there in a minute and get things for you."

Mr. Landor soon had his meal before him, and returned to his store. Two hours later he was startled by his wife, who came hurrying in, accompanied by two lady friends.

"John," she exclaimed, "I'm afraid something has happened to Sallie! She has just disappeared, and we can't find her. We've looked everywhere," and the worried woman sank upon a chair and began to cry.

"Oh, I guess she's around somewhere," said Mr. Landor, soothingly. "Have you inquired at Mr. Hartman's? She often goes there, you know."

"No, she is not there. We have looked for her at every house we can think of where she might possibly be, and no one has seen her," answered one of the lady friends.

Mr. Landor also became anxious, and closing his store he accompanied the ladies to the street.

"We will go home first and make a thorough examination there," he said, walking so rapidly that his companions could hardly keep pace with him.

It was getting dark by this time, and as news of the disappearance spread through the little community, a goodly number joined in the search. The Landor homestead was at the outskirts of the village, there being no other house beyond it, and when the party reached it every place where the missing girl might be was closely examined. Barns, cellars, cisterns, wells, outbuildings—all were searched without result. The various houses and premises of the village were also visited, and parties of men scoured the adjacent woods, but there was nothing to show what had become of Sallie Landor.

The keen eyes of a small boy, however, were the first to discover a tangible clue. Little Johnny Sprague had followed the group of sympathizing neighbors who had gone back with the grief-stricken father and mother to their home. When they entered the house he wandered around to the kitchen door and began a search on his own account.

"Mebbe some kidsnappers has carried her off to sell her to the doctors in Philadelphy to make into a skelington," he questioned, as he remembered certain gruesome stories. "Mebbe they've got her all cut to pieces by this time, an' strung up on wires—like the one I seen at Dr. Brown's office—an' we'll never find her."

He walked slowly toward a flower bed, a short distance from the kitchen door. Johnny liked flowers, and he stooped to pick one, when his quick eye noticed in the dim light that right through the middle of the bed the flowers were lying prostrate and bruised, as if some heavy body had been dragged across and crushed them down. Eagerly and carefully he looked beyond the flower bed, and easily made out the trailing mark until it came to a slight fence which had been erected around the garden. At this point the fence had been pushed or pulled down, and the trail entered a plowed field. Johnny carefully followed it until he arrived at a tree that stood by itself in the centre of the field. Here the trail ended, but the boy's heart bounded as he picked up a lady's handkerchief from the ground. Then he looked up into the tree, and another surprise awaited him. Caught in an upper branch was a fluttering piece of cloth.

"Gee! What d'ye s'pose the kidsnappers carried her up into that tree for?"

Johnny could not answer the question, but he was sure he had made an important discovery, and he scurried back to the house as fast as his small legs could carry him. Rushing in upon the sorrowing group he threw the handkerchief into Mrs. Landor's lap.

"Why, Johnny Sprague!" exclaimed the astonished woman. "Where did you get this? It is Sallie's handkerchief."

"Found it out in the field, an' there's a piece of her dress stickin' up in a tree. I guess the kidsnappers must have tored it off to gag her with," answered Johnny, proud of his success where others had failed. "Come out an' I'll show you."

Despair at once changed to eager interest. Lanterns were procured, and the boy guided the party to the flower bed and pointed to the trailing mark across it, and on through the garden and field to the tree. At Mrs. Landor's request he climbed the tree and brought down the bit of cloth, which was easily identified as a piece of Sallie's dress. Search was made for other marks or clues, but none were found.

Who or what had been dragged across the soft ground to the tree? How came Sallie's handkerchief there? By what means had a piece of her dress been torn from her and then deposited among the branches? The father and mother looked appealingly from face to face, but only Sam Harding, the village constable, offered a esusgg onis'taoincmfwypshrdlubgkqj suggestion.

"This beats me," he said. "Generally speakin', when folks disappear, there's somethin' to show where they've gone; but in this case there's jest nothin'. The disappearance seems to begin at a flower bed an' end up a tree. I think I'd better go over to the Wilber Station an' get Tom Rankin's dogs. Maybe they can scent this matter out."

"I wish you would, Sam," responded Mr. Landor. "It will be a great relief to us to find something definite."

The following morning Tom Rankin came with his dogs. They kuickly took the trail at the flower bed and dashed on unerringly to the tree. There they stopped, and with noses pointed upward, barked vociferously.

"Well, if this ain't a puzzler!" exclaimed Tom Rankin. "I'll stand by my dogs; they make no mistake. The girl was up in that tree, an' she didn't come down, but how did she get away from it, I'd like to know?"

Everybody believed that Sallie Landor had been dragged from her home to the lone tree in the field. That seemed settled beyond dispute. But from the tree—how, by whom, and where had she been taken? The impossible had apparently occurred, and conjectures and surmises were as frequent as they were useless.

Mr. Landor did not remain idle. The peace of his home depended on getting some definite news of his missing daughter. He advertised in leading newspapers, offering a large reward, but no answer was received. Acting on advice of friends he sought the aid of a well-known detective agency. The agency sent one of their best men to the village. As he had a reputation to maintain, he felt bound to explain the mystery, and accompanied by Sam Harding, he visited the Landor homestead, the tree in the field, and asked numerous questions. At the conclusion of his investigation he announced sententiously:

"The girl has eloped."

"Eloped?" echoed Sam, not at all impressed by the eminent detective. "How could she elope up a tree?"

"That's just a blind for you country folks, but she can't fool me," snapped the detective. "She has eloped all the same. If you can find the man she has gone off with, you'll find the girl."

"Well, if that ain't brilliancy to beat Sherlock Holmes!" declared Sam, sarcastically. "Mr. Landor has hired you to come here to tell us country jakes that if we can find where his daughter has gone we can go an' get her. That's what it amounts to. You're a great detective—you are, indeed!"

Sam had the greatest respect for Sallie Landor, and the insinuation that she had eloped aroused his anger. The detective, however, did not wait for further comments, but took the first trai nthat would carry him home. So the matter ended. All efforts had failed, and as days passed into weeks the sorrowing father and mother could only watch and wait for the possible return of the loved one.

It was more than three weeks before Sallie could settle the problem of her whereabouts to her own satisfaction. She had gone to the flower bed to pick a few blossoms to adorn the supper table. While bending over the mass of foliage she suddenly heard a whirring sound, and looking up caught a glimpse of some huge object apparently swooping down upon her. Then something behind seized the belt of her dress, and in an instant she was being dragged across the garden, tearing down the frail fence, and over into the field beyond. A moment more and she was conscious of a sharp pain in her right arm, and this was followed by a blow on her head. After that she knew no more until she opened her eyes amid strange surroundings. She was lying on a bed in a large, elegantly furnished room. Beautiful pictures were on the walls, soft, rich rugs on the floor, and over by a window a young woman, in the garb of a nurse, was sitting. What did it all mean? Was she dreaming? No, it certainly was not a dream, she—

"Thank the Lord!" and a pair of serious gray eyes were looking down into hers.

"Yes, I should say so, though I don't know why you should thank the Lord," answered Sallie with some asperity, and in a voice that alarmed her by its weakness. "Who are you, and why am I here?"

"I am Dr. Charles Nelson, and you are here to rest and get well," was the smiling reply.

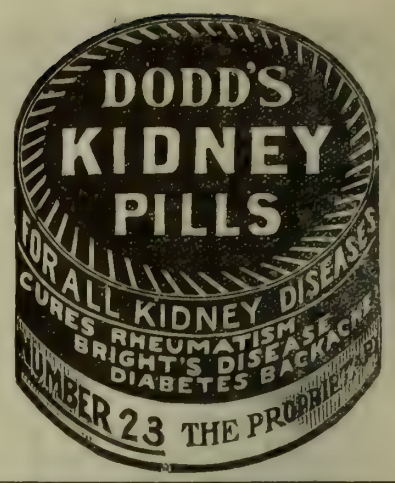
Sallie lay quiet for a few minutes—she was so weak—and calmly surveyed Dr. Nelson. He certainly was a fine looking young man, and the strong, kindly face especially attracted her.

"Well, Dr. Nelson, please explain. What does all this mean?"

"It means that if you had died I never would have forgiven myself," he replied, his expression being so extremely serious that Sallie laughed.

BETTER THAN SPANKING

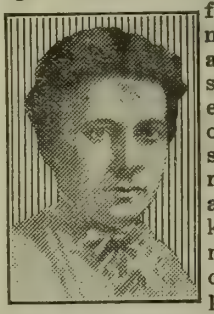
Spanking does not cure children of bedwetting. There is a constitutional cause for this trouble. Mrs. M. Summers, Box W. 309, Windsor, Ont., will send free to any mother her successful home treatment, with full instructions. Send no money but write her to-day if your children trouble you in this way. Don't blame the child, the chances are it can't help it. This treatment also cures adults and aged people troubled with urine difficulties by day or night.



AFTER SIX YEARS OF SUFFERING

Woman Made Well by Lydia E. Pinkham's Vegetable Compound.

Columbus, Ohio.—"I had almost given up. I had been sick for six years with



female troubles and nervousness. I had a pain in my right side and could not eat anything without hurting my stomach. I could not drink cold water at all nor eat any kind of raw fruit, nor fresh meat nor chicken. From 178 pounds I went to 118 and would get so weak at times that I fell over. I began to take Lydia E. Pinkham's Vegetable Compound, and ten days later I could eat and it did not hurt my stomach. I have taken the medicine ever since and I feel like a new woman. I now weigh 127 pounds so you can see what it has done for me already. My husband says he knows your medicine has saved my life."—Mrs. J. S. BARLOW, 1624 South 4th St., Columbus, Ohio.

Lydia E. Pinkham's Vegetable Compound contains just the virtues of roots and herbs needed to restore health and strength to the weakened organs of the body. That is why Mrs. Barlow, a chronic invalid, recovered so completely.

It pays for women suffering from any female ailments to insist upon having Lydia E. Pinkham's Vegetable Compound.

Was Troubled With Stomach and Liver

FOR SEVEN YEARS.

MILBURN'S LAXA-LIVER PILLS

CURED HER.

Mrs. Thomas Sargent, Berkeley, Ont. writes: "I have been troubled with my stomach and liver for the past seven years; also have had constipation, causing headaches, backaches and dizzy spells, and at times I would almost fall down. I tried all kinds of medicine, without obtaining any relief. I commenced using Milburn's Laxa-Liver Pills, and they have cured me. I have recommended them to many of my friends, and they are all very much pleased with the results they have obtained from their use."

Milburn's Laxa-Liver Pills have been on the market for the past twenty-five years, and can be procured from all dealers.

The price is 25 cents per vial, or five vials for $1.00.

If your dealer does not keep them, they will be mailed direct on receipt of price, by The T. Milburn Co., Limited, Toronto, Ont.

"It was no laughing matter that brought yo uhere, young lady—I can assure you of that," he added with a faint smile.

"I beg pardon, doctor," said Sallie, flushing slightly. "I do not know the circumstances of my coming, and, of course, do not appreciate your view of it."

"Of course you do not, but before telling you the story, I wish to know your name and address, that I may telegraph to your friends. Your family may be very anxious about you."

Sallie's face clouded. Her father and mother would certainly be worried by her prolonged absence. She gave the desired information, and the doctor hurried away. An hour later he returned.

"I communicated with your people, Miss Landor," he said, "and they were overjoyed to hear from you. Your father and mother will be here tomorrow afternoon."

"Thank you for your kindness," replied Sallie, growing cheerful again. "Now give me the particulars of my removal—or abduction would be a better name, perhaps—from my father's house."

"Abduction is the proper word," laughed the doctor, "andI assure you it occurred without your consent, or mine. You are now at my home in one of the suburbs of Philadelphia, and this is the story:

"I am greatly interested in aviation, and have an airship of my own invention. One evening, a little over three weeks ago, I started out with my assistant to test some changes I had made. I was so absorbed in the working of my machine that I did not notice, particularly, in which direction we were flying. We were near the ground, I remember, and moving slowly, when, suddenly, some weight seemed to have been added to the machine. Looking over I was horrified when I discovered the cause. By careless or mischance a drag-rope—which I seldom carry or use—had been allowed to drop and trail along the ground, and there, caught by the grappling hook. was a woman."

"Ah, I see now! I was the fish you caught with your hook," interrupted Sallie, mischievously. "What bait did you use, doctor?"

"There was no bait used, but I did succeed in catching a very beautiful young lady," replied the doctor, bowing profoundly. "However, I was not thinking about beauty just then—I was too badly scared for that. You were being dragged along the ground when I first saw you, and before it could be prevented you were dashed against a tree; in fact, my assistant and I pulled you up through the branches.

"You were unconscious, and I saw at once you were severely hurt. Of course we hastened home, and you have been here ever since. I found your right arm was badly bruised, and you had received a blow near the right temple. The injury to the head was the most serious, for fever set in, and all along you have been delirious. You can see that during these weeks I have had a very anxious time, but my worry is over now. You're out of danger."

"It was certainly a strange happening, Dr. Nelson, although I knew but little about it at the time," said Sallie, a faint color coming to her face as she noted the admiring look of the gray eyes. I feel quite comfortable now, except that I am yet so weak. When can I go home?"

"I can hardly tell you that. As your doctor I think you ought to remain here at least three weeks longer."

"Oh, dear! My father and mother will not consent to so long a stay as that, and besides——"

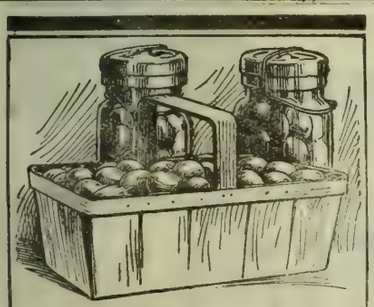
"We'll see about that when they come," interrupted the doctor, with a laugh. "However, we have talked enough and you must rest."

It was more than three weeks before Dr. Nelson pronounced his patient strong enough to go home. Indeed, he would have prolonged her stay, had not Sallie, although she was having a good time, insisted on going. The doctor yielded, and then declared he would go with her.

"I stole something precious from your father's garden on one occasion," he explained, "and I'm going to see that the goods are safely returned."

Johnny Sprague was at the railway station when the group of friends gathered to greet Sallie. He looked at her critically, and then at Dr. Nelson, as the two stepped from the car to the station platform.

"Gee!" he exclaimed disgustedly, as he turned away. "'Twas a doctor who kidsnapped her after all. but he ain't goin' to cut her up to make a skelington. He's just goin' to marry her!"



Plums

have a spicy zest which makes them a favorite preserving fruit, and several excellent varieties are plentiful this year. Preserve all you can with

Lantic Sugar

for the sake of economical and wholesome desserts next winter. Lantic sugar comes in

2 and 5-lb Cartons
10 and 20-lb Bags

Pure cane. FINE granulation

"The All-Purpose Sugar"

PRESERVING LABELS FREE
54 gummed and printed labels for a red ball trade-mark. Send to

Atlantic Sugar Refineries Ltd.
Power Bldg., Montreal 68

Entirely new-This COAL Range

Think of a Coal range with a Handy-height Oven!

What a joy to bake without constantly bending over; to see the things baking through the Clearview Oven Door!

The Thermometer at standing height; a clear sweeping space under the range; a warming closet directly heated.

This magnificient new range finished in white porcelain enamel and bright nickel is on sale in 700 stores. A book of photos of the range sent on request.

CLARE BROS. & CO. LIMITED - PRESTON

LIGHTER DAY HIGH OVEN COAL RANGE

CURES BILIOUSNESS PREVENTS BRIGHT'S DISEASE

The Certified Statement of One Who Has Proven the Efficiency of Dr. Chase's Kidney-Liver Pills.

Mr. Colin M. Keil, Craighurst, Simcoe County, Ontario, writes: "My mother and I have both used Dr. Chase's Kidney-Liver Pills with great satisfaction. We find that there is nothing to equal them as a prompt cure for torpid liver, biliousness and indigestion. Some years ago my mother came near to death from kidney trouble and has to be careful in preventing Bright's disease. By using Dr. Chase's Kidney-Liver Pills occasionally she keeps the kidneys healthy and active. Another point favorable to Dr. Chase's Kidney-Liver Pills is that they do not gripe and yet accomplish good results. You are at liberty to use my letter."

This statement is endorsed by Mr. Marmaduke Caston, Justice of the Peace, who writes: "This is to certify that I am personally acquainted with Mr. Colin M. Keil and believe his statement regarding Dr. Chase's Kidney-Liver Pills to be true and correct."

If you are interested in this case, write to Mr. Kiel, enclosing stamp for reply, and he will verify his statement. We like to have people to do this, for we are very careful to only use statements from responsible persons.

Sould this case not be similar to yours, write to us for the statement of some one whose trouble was along the same lines. We have thousands of letters to choose from. Or better still, put the Kidney-Liver Pills to the test right away. They will only cost you a quarter and a box lasts for some time.

As a means of awakening the action of liver, kidneys and bowels and thereby curing biliousness, indigestion, backache and kidney troubles, Dr. Chase's Kidney-Liver Pills hold a unique position. By their combined action on these eliminating organs they prove effective in complicated ailments which defy ordinary treatment. One pill a dose, 25 cents a box, all dealers, or Edmanson, Bates & Company, Limited, Toronto.

Had Pimples and Festering Sores ON HER FACE.

When the blood gets bad, boils, pimples and festering sores are sure to break out on the face and body. To get rid of them the blood should be cleansed by Burdock Blood Bitters.

Mrs. Charles Jewell, Orrville, Ont., writes: "I feel it my duty to write and tell you about what Burdock Blood Bitters has done for me. I was so pale I had no color at all. I also had pimples and festering sores on my face, and my head ached nearly all the time. I had been reading in the paper, and saw that Burdock Blood Bitters was good for such troubles so I tried a bottle and before it was half done I felt fine, and when the bottle was finished I felt like a new woman. I tell all my friends about it, and advise everyone suffering from such trouble to use B.B.B."

There is only one B.B.B. That is the genuine, manufactured by The T. Milburn Co., Limited, Toronto, Ont.

St. Joseph, Levis, July 14, 1903.
Minard's Liniment Co., Limited.

Gentlemen—I was badly kicked by my horse last May, and after using several preparations on my leg nothing would do. My leg was black as jet. I was laid up in bed for a fortnight and could not walk. After using three bottles of your MINARD'S LINIMENT I was perfectly cured, so that I could start on the road.

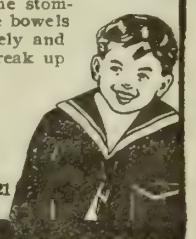
JOS. DUBES,
Commercial Traveller.

SICK TO DAY!

Disorders of the stomach and constipation are so common with children. Mothers should know that Chamberlain's Tablets are mild and gentle, but very effective. The little folk often need a cathartic, and they do appreciate Chamberlain's Tablets instead of nauseous oils and mixtures.

CHAMBERLAIN'S TABLETS
Good for children

You should always keep a bottle on the shelf. A little dose at night and the fretful, feverish little chap wakes up bright and sunny in the morning. The liver is stimulated, the stomach cleansed and the bowels purified, but all safely and gently. They help break up a cold very quickly.



Get Chamberlain's Tablets at druggists, 25c, or by mail from Chamberlain Medicine Co., Toronto. 21

WELL TOMORROW

Try an Ad in the FARMER

THE CHARLOTTETOWN EXHIBITION

(Continued from page 8)

Ewe, 2 years old—1 and 2, John Tweedy; 3, H. Tweedy.

Ewe, shearling—1 and 2, John Tweedy; 3, H. Tweedy.

Ewe lamb—1, John Tweedy; 2, G. W. Wood & Son; 3, H. Tweedy.

Pen—1, John Tweedy; 2, H. Tweedy; 3, G. W. Wood & Son.

Lincolns

Ram, 2 shears and over—1 and 3, Albert Boswall, French Fort; 2, Ernest Lund, Mt. Herbert.

Ram shearling—1, Albert Boswell.

Ram lamb—1, 2 and 3, Albert Boswall.

Ewe, 2 shears and over, having reared lamb—1 and 3, Albert Boswell; 2, Ernest Lund.

Ewe shearling—1 and 3, Albert Boswell; 2, Ernest Lund.

Ewe lamb—1 and 2, Albert Boswell; 3, Ernest Lund.

Flock of lincolns—1, Albert Boswell; 2 and 3, Ernest Lund.

Southdowns

Ram, 2 shears and over—1, Oliver Saunders; 2, Elijah Saunders.

Ram shearling—1, Oliver Saunders; 2, Elijah Saunders; 3, Oliver Nunn.

Ram lamb—1 and 2, Oliver Saunders; 3, Elijah Saunders.

Ewe, 2 shears and over rearing lamb this season—1 and 2, Oliver Saunders; 3, Elijah Saunders.

Ewe Searling—1 and 2, Elijah Saunders; 3, Oliver Saunders.

Ewe lamb—1, Oliver Saunders; 2 and 3, Elijah Saunders.

Flock of southdowns—1, Oliver Saunders; 2, Elijah Saunders.

Special prize for best Southdown ewe given by Bank of Commerce—1, Oliver Saunders.

Shropshire Downs

Ram, 2 shears and over—1, Geo. Boswell; 2, Almon Boswell.

Ram shearling—1, Geo. Boswell; 2, Almon Boswell.

Ram lamb—1, Almon Boswell; 2 and 3, Almon Boswell.

Ewe, 2 shears and over, rearing lamb lamb this season—1 and 2, Geo. Boswell; 3, Almon Boswell.

Ewe, shearling—1 and 2, Geo. Boswell; 3, Almon Boswell.

Ewe lamb—1 and 3, Geo. Boswell; 2, Almon Boswell.

Flock Shropshire Downs—1 and 3, Geo. Boswell; 2, Almon Boswell.

Oxford Downs

Ram, 2 shears—1, J. M. Laird & Son, Kelvin Grove.

Ram shearling—1, David Reid, Montague.

Ram lamb—1 and 2, A. H. Boswell; 3, J. M. Laird & Son.

Ewe, 2 hears and over, rearing lamb this season—1, 2 and 3, J. M. Laird & Son.

Ewe shearling—1, J .M. Laird & Son; 2, A. H. Boswell; 3, David Reid.

Ewe lamb—1, A. H. Boswell; 2 and 3, J. M. Laird & Son.

Flock of Oxford Downs—1 and 2, J. M. Laird & Son; 2, A. H. Boswell.

Suffolks

Ram, 2 shears and over—1, Parker Horne, Winsloe Station; 2, J. Reagh Horne, Winsloe Station.

Ram Shearling—1, J. Reagh Horne; 2, Parker Horne.

Ram lamb—1 and 3, J. Reagh Horne; 2, Parker Horne.

Ewe, 2 shears and over, rearing lamb this season—1, Parker Horne; 2 and 3, J. Reagh Horne.

Ewe shearling—1 and 2, J. Reagh Horne; 3, Parker Horne.

Ewe lamb—1 and 2, Paker Horne; 3, J. Reagh Horne.

Flock of Leiffolks—1, J. Reagh Horne; 2, Paker Horne.

Hampshire Downs

Ram, 2 shears and over—1, Cephus Nunn; 2, Almon Boswell.

BABY'S OWN SOAP

For Baby's Bath

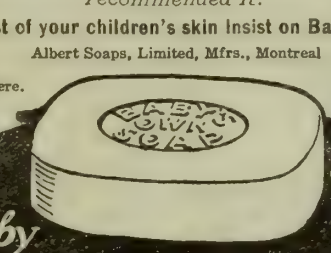
The creamy softening lather of Baby's Own Soap and the fragrance of its delicate aroma leave the skin cleansed—refreshed—aromatized

Four generations of Canadian mothers have used and recommended it.

In the interest of your children's skin insist on Baby's Own Soap

Albert Soaps, Limited, Mfrs., Montreal

Sold everywhere. 1815



Best for Baby

Best for You

Fawcett

NEW CHAMPION RANGE

A GREAT BAKER

Fawcett Ranges are the handsomest, most economical, durable, and satisfactory, as well as the best bakers.

Send for our booklet explaining why. It contains facts about ranges that you, as a housekeeper, ought to know.

CHARLES FAWCETT LIMITED
SACKVILLE · N · B · CANADA

Ram shearling—1, Cephus Nunn; 2, Almon Boswell.

Ram lamb—1 and 3, Cephus Nunn; 2, Almon Boswell.

Ewe, 2 shears and over, rearing lamb this season—1 and 3, Almon Boswell; 2, Cephus Nunn.

Ewe shearling—1 and 2, Cephus Nunn; 3, Almon Boswell.

Ewe lamb—1 and 2, Cephus Nunn; 3, Almon Boswell.

Flock of Hampshires—1, Cephus Nunn; 2, Almon Boswell.

Dorset Horns

Ram, 2 shears and over—1, Geo. Boswell.

Ram shearling—1, Geo. Boswell; 2, John Tweedy, Ernscliffe.

Ram lamb—1, Geo. Boswell; 2 and 3, John Tweedy.

Ewe, 2 shears and over, rearing lamb this season—1 and 2, Geo. Boswell; 3, John Tweedy.

Ewe shearling—1 and 2, Geo. Boswell; 3, John Tweedy.

Ewe lamb—1 and 2, Geo. Boswell; 3, John Tweedy.

Flock of Dorset Horns—1 and 2, Geo. Boswell; 2, John Tweedy.

Cheivots

Ram, 2 shears and over—1, Robert Furness, Vernon Bridge; 2, Cephus Nunn.

Ram shearling—1 and 3, Robert Furness; 2, Cephus Nunn.

Ram lamb—1, Robert Furness; 2, Cephus Nunn; 3, Oliver Nunn; Winsloe Station.

Ewe, 2 shears and over, rearing lamb this season—1 and 2, Cephus Nunn; 3, Robert Furness.

Ewe shearling—1 and 3, Robert Furness; 2, Cephus Nunn.

Ewe lamb—1 and 2, Robert Furness; 3, Cephus Nunn.

Flock of Cheviots—1, Robert Furness; 2, Cephus Nunn.

Long Wool Grades

Ewe, 2 shears and over, rearing lamb this season—1, S. L. Boswell, Pownal; 2, Robert Furness; 3, Albert Boswell; 4 and 5, S. C. Lane.

Ewe shearling—1, Samuel C. Lane; 2, S. L. Boswell; 3, Robert Furness.

Ewe lamb—1 and 2, Ernest Lund, Mt. Herbert; 3, S. C. Lane.

Wether shearling—1 and 2, S. C. Lane; 3, S. L. Boswell.

Wether lamb—1, Robert Furness; 2, S. L. Boswell; 3, S. C. Lane.

Best fat ewe or wether—1, Albert Boswell; 2, S. L. Boswell; 3, S. C. Lane.

Short or Medium Wool Grades

Ewe, 2 shears and over, rearing lamb this season—1 and 2, Oliver Saunders; 3, A. H. Boswell; 4, Elijah Saunders; 5, Robert Furness.

Ewe shearling—1, Elijah Saunders; 2, Oliver Saunders; 3, Almon Boswell.

Ewe lamb—1 and 3, Oliver Saunders; 2, Cephus Nunn.

Wether shearling—1 and 3, Oliver Saunders; 2, Cephus Nunn.

Wether lamb—1, Elijah Saunders; 2 and 3, Oliver Saunders.

Best fat ewe or wether—1 and 2, Oliver Saunders; 3, S. L. Boswell.

HONEY

Display liquid extracted honey—1, H. Newson, East Royalty.

EGGS

Fresh—For Producers Only

One doz. specials—1, Wm. Cudmore, Charlottetown; 2, Geo. Crockett, York; 3, Mrs. Albert Hyde, Cornwall; 4, A. Roy Jones, Hazelbrook.

One doz. extras—1, Mrs. John McMillan, Hazelbrook; 2, Heath Vessey, York; 3, John Whitlock, Charlottetown; 4, A. Roy Jones.

One doz. No. 1's—1, Mrs. Frank Andrews, New Glasgow; 2, Heath Vessey; 3, W. J. Pickard, Charlottetown; 4, Susan Weatherbie, Village Green.

Six doz. specials—1, Heath Vessey; 2, Jas. Monaghan, Hazelbrook.

Six doz. extras—1, Heath Vessey; 2, Mrs. Ernest Prowse, Brackley Pt. Road.

Fresh Gathered—Open

12 doz. specials—1, Mrs. Albert Hyde.

12 doz. extras—1, A. Roy Jones; 2, E. J. Vessey, York.

12 doz. No. 1's—1, Geo. Crockett; 2, E. J. Vessey; 3, Mrs. Geo. Howard, Winsloe Station.

Fleece Wool

Domestic, fine, medium—1 and 2, Elijah Saunders, Winsloe Road; 3, Oliver Saunders; 4, Evert Saunders.

Domestic medium—1 and 3, Cephus Nunn, Winsloe; 2, Evert Saunders; 4, Earle Foster, Marshfield.

Domestic coarse—1, Earle Foster; 2 and 3, S. L. Boswell, Pownal.

HORTICULTURE

Apples

Commercial packages packed in boxes for export—Alexander—1, J. A. Wood, Hazelbrook. Wealthy—1, J. A. Wood, Hazelbrook.

Collection best 10 sorts commercial apples that can be grown in Maritime provinces—1, Chas. Webster, Kentville, N. S.; 2, Thos. Alyward, Falmouth, N. S.; 3, Jas. Howard.

Best collection of 5 sorts grown on P. E. I. Choice of grower—1, John Newson, Charlottetown; 2, Jas. Essory, Union; 3, Jas. Howard, Cornwall.

Pears

Collection of not less than 5 lots—1, C. Webster, Kentville, N. S.; 2, Thos. Aylward, Falmouth.

Plums

Best collection—1, D. J. Stewart, Lower Montague; 2, E. G. Love, St. Avards.

Cranberries

Best peck wild cranberries—1, F. W. Prowse, Union; 2, Russel Wheatby, North River.

Field Roots

Potatoes, collection of best early varieties—1, Peter Brodie; 2, E. J. Vessey; 3, Jas. McLean, Lake Verde; 4, Herbert Cannon, St. Avards.

Collection best late varieties—1, Peter Brodie; 2, E. J. Vessey; 3, Jas. McLean.

Best collection best white varieties—1, E. J. Vessey; 2, Peter Birdie; 3, Jas. McLean.

Best collection red varieties—1, E. J. Vessey; 2, Peter Brodie; 3, Jas. McLean.

Early Rose—1, E. J. Vessey; 2, Geo. Crockett; 3, Golden Mathieson; 4, Robt. McKinnon, Charlottetown.

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A barrel of "KENT" Flour means batches of good bread and the Farmer knows it.
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KENT FLOUR
If not, do so to-day!
Buy by the Bag or Barrel

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Of course they will take a cup of tea, and naturally you are anxious it should be "just so."
Pin your faith to KING COLE next time, and see how well it will serve you.
KING COLE TEA
"You'll like the flavor"

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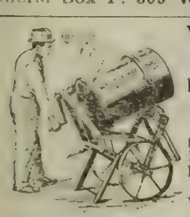
If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers, Box P. 309 Windsor, Ont.



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Write us for information and booklet based on years of experience in farm buildings.
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Beauty of Hebron—1, Peter Brodie; 2, Heath Vessey; 3, Meredith Parkman, East Royalty.

McIntyre potatoes—1, Peter Brodie; 2, Heath Vessey; 3, E. J. Vessey; 4, Jas. McLean.

Green Mountain—1, E. J. Vessey; 2, Peter Brodie; 3, Herbert Lewis, York; 4, Jas. McLean.

Carman No. 1—1, Peter Brodie; 2, E. J. Vessey; 3, Heath Vessey; 4, Jas. McLean.

Vermont Gold Coin—1, E. J. Vessey.

Fitzgerald No. 1—Prize offered by Mr. Justice Fitzgerald—1, Peter Brodie; 2, Wm. Gregory, St. Avards; 3, E. J. Vessey, York.

Collection field roots, potatoes not included—1, Patrick Curey, Charlottetown Royalty; 2, Arthur C. Wood, Southport.

Best collection table squash—1, Arthur C. Wood; 2, Arthur Burke, Southport.

Best collection vegetables, all grown by exhibitor—1, Geo. Thos. Brown, West Royalty; 2, Chas. Roberts, Falconwood Hospital; 3, Mrs. Jas. Dunn, St. Elenors.

Grain and Seeds

Bushel wheat, White Fyfe—2, E. J. Vessey.

Red Fyfe—1, G. W. Wood & Son; 2, Calvin Wood, Southport; 3, Thos. Aylward.

Campbell's White Chaff—1, G. W. Wood & Son; 2, Calvin Wood.

White Russian—1, Cornelius McLellan, Arlington; 2, Jas. Simpson, Bay View; 3, E. J. Vessey.

Bushel Bailey(2-rowed—1, E. J. Vessey; 2, Peter Brodie; 3, Calvin Wood.

Bushel barley, 6-rowed—1, J. W. Wood, Hazelbrook; 2, Ernest Lund; 3, E. J. Vessey.

Bushel black oats—1, Cornelius McLellan; 2, E. J. Vessey; 3, Peter Brodie.

Black Tartarian or Norway oats—1, James Simpson, Bay View.

Ligorna oats, 1 bush.—1, E. J. Vessey.

Banner oats—1 and 2, A. —. Vessey; 3, Peter Brodie.

Bushel white oats—1, G. W. Wood.

Bushel buckwheat—1, E. J. Vessey; 2, G. W. Wood; 3, Wm. O'Brien & Sons. Windsor, N. S.

Bushel field peas—1, Wm. O'Brien & Sons; 2, Thos. Aylward; 3, Robt. McKinnon.

Bushel white beans—1, Robt. McKinnon, Charlottetown.

Half bushel timothy seed—1, Stewart Bros., Murray River; 2, E. J. Vessey; 3, Thos. Aylward; 4, Wm. O'Brien & Sons.

25 pounds Red Clover seed—1, Thos. Aylward.

Half bushel flaxseed—1, E. J. Vessey; 2, Francis Chowen; 3, Jas. Monaghan.

Poultry

Anconas Mottled Cock—1, Thos. Aylward; 2, E. J. Vessey.

Anconas Mottled Hen—1, Thos. Aylward; 2, E. J. Vessey; 3, W. H. D. Vessey, York.

Andulsian Hen—1, Robt. Hudson, Charlotte.

Bantam Japanese Cock—1, Spring Park Poultry Yard, Charlottetown; 2, Peerless Poultry Yards.

Bantam Japanese Hen—1, Spring Park Poultry Yards; 2 and 3, Peerless Poultry Yard.

Bantam Cochin Cock—1 and 3, Spring Park Poultry Yards; 2, Chas. H. Smith, Moncton.

Bantam Cochin Hen—1, Spring Park Poultry Yards; 2, Chas. H. Smith; 3, Peerless Poultry Yards.

Bantam Seabright Cock—1, Spring Park Poultry Yards.

Bantam Seabright Hen—1, Spring Park Poultry Yards; 2, Peerless Poultry Yards.

Bantam Rosecomb Cock—1, Spring Park Poultry Yards; 2, Peerless Poultry Yards.

Bantam Rosecomb Hen—1, Spring Park Poultry Yards; 2, Peerless Poultry Yards.

Bantam Poland, Black Cook—1, Peerless Poultry Yards; 2, Spring Park Poultry Yards.

Bantam Poland White Hen—1, Peerless Poultry Yards; 2, Spring Park Poultry Yards.

Bantam A. O. V.—1 in cock and hen—Peerless Poultry Yards; 2 in cock and hen—Spring Park Poultry Yards.

Brahma, Light or Dark Cock—1, John Whitlock; 2 and 3, Chester C. Gregory, New Glasgow, N. S.

Brahma, Light or Dark Hen—1. Chester C. Gregory; 2, Charles H. Smith; 3, John Whitlock.

Cochin, A. O. V. Cock—1, Henry Lafthorn, Charlottetown; 2, Miss Pansy Haynes, Charlottetown.

Cochin, A. O. V. Hen—1, Miss Pansy Haynes; 2, Henry Lafthorn.

Dorking, A. O. V. Cock—1 (in cock and hen), John Whitlock.

Hamburg, Silver Spangled Cock—1, John Tweedy; 2, John Whitlock; 3, Miss Pansy Haynes.

Hamburg Silver Spangled Hen—1 and 2, Leaman & Stewart, Moncton; 3, John Tweedy.

Hamburg, Golden Penciled Cock—1, A. H. Boswell; 2, Lyle Boswell, Marchfield.

Hamburg Golden Penciled Hen—1, Lyle Boswell; 2 and 3, A. H. Boswell.

Hamburg Silver Penciled Cock—1, Lyle Boswell; 2, A. O. Boswell.

Hamburg Silver Penciled Hen—1, Lyle Boswell; 2 and 3, A. H. Boswell.

Hondan Cock and Hen—1 in each, G. L. Hayden, Cherry Valley.

Langshan—1 in cock and hen, Chas. H. Smith.

Leghorn White, S. C. Cock—1, John Whitlock; 2, W. J. Pickard; 3, Dawson Balderson. North Wheltshire.

Leghorn White S. C. Hen—1, W. J. Pickard; 2, Averett Lund; 3, John Whitlock.

Leghorn Brown S. C. Cock—1, Geo. Chilton, City; 2, Miss Pansy Haynes; 3, John Whitlock.

Leghorn Brown S. C. Hen—1, John Whitlock; 2 and 3, Miss Pansy Haynes.

Leghorn Buff—S. C. Cock—1 and 2, W. W. Osborne, New Glasgow, N. S.; 3, Fred Blanchard, City.

Buff Leghorn, S. C. Hen—1 and 3, W. W. Osborne; 2, Miss Pansy Haynes.

Leghorn, Brown or White, R. C. Cock—1, Sidney Enman, West Royalty; 2, George Chilton.

Leghorn, Brown or White, R. C. Hen—1, Sidney Enman; 2, John Whitlock; 3, George Chilton.

Minorca Black S .C. Cock—1 and 2, Wm. J. Cudmore, City; 3, Seaman & Stewart.

Minorca Black S. C. Hen—1, R. L. Day; 2 and 3, Wm. J. Cudmore.

Minorca, White, S. C. Cock and Hen—1, Chas. Pippy, Mt. Herbert.

Orpington Buff Cock—1, C. P. Thorne, City.

Orpington Buff Hen—1, C. P. Thorne; 2 and 3. Geo. C. Cudmore.

Orpington A. O. V.—1 in cock and hen, John Y. McFadgeon, Tignish.

Plymouth Rock Barred Cock—1, John McFadgeon; 2, Miss Pansy Haynes; 3, Pope Noy, Hazelbrook.

Plymouth Rock Barred Hen—1, Miss Pansy Haynes; 2, John McFadgeon; 3, Pope Noy.

Plymouth Rock White Cock—1, E. E. Graham, New Glasgow, N. S.; 2, Chester C. Gregory; 3, Spring Park Poultry Yard.

Plymouth Rock White Hen—1, Mrs. Albert Boswell, French Fort; 2, Spring Park Poultry Yards; 3, E. E. Graham.

Plymouth Rock Buff Cock and Hen—1 in both, W. W. Osborne.

Rhode Island Red S. C.—1 in cock and hen, John Whitlock; 2, in hen, Pope Noy.

Rhode Island Red P. C. Cock—1, Seaman & Stewart; 2, Pope Noy.

Rhode Island Red P. C. Hen—1, Pope Noy; 2, Leaman & Stewart.

Spanish Black Cock—1, R. B. McKinley, North River.

Spanish Black Hen—1 and 2, Donald McMillan, St. Avards.

Wyandotte Silver Laced—1 in cock and hen, Geo. Chilton.

Wyandotte White Cock—1, Spring Park Poultry Yards; 2, H. P. Jones.

Wyandotte White Hen—1, H. P. Jones; 2, Spring Park Poultry Yards; 3, R. L. Day.

Wyandotte Buff Cock—1 and 2, William Beazley, Halifax, N. S.

Wyandotte Buff Hen—1 and 3, Wm. Beazley; 2, Robert Hudson.

Wyandotte A. O. V.—1 in cock and hen, Henry Lafthorn.

Sussex Speckled Cock and Hen—1, Seaman & Stewart.

Sussex Red Cock and Hen—1, Seaman & Stewart.

Dark Cornish Cock and Hen—1, Seaman & Stewart.

Chickens

Anconas, Mottled—1 in cock and hen, E. J. Vessey; 2 in cock, W. H. D. Vessey.

Brahma, Light or Dark—1 and 2 in cock and hen, Chester Gregory; 3 in cock and hen, John Whitlock.

Hamburg Silver Spangled—1 in cock and hen, Thos. Aylward.

Hamburg Golden Penciled—1 and 3, in cock and hen, A. H. Boswell; 2, Lyle Boswell.

Hamburg Silver Penciled Cock—1 and 3, A. H. Boswell; 2, Lyle Boswell.

Hamburg Silver Penciled Hen—1 and 2, A. H. Boswell; 3, Lyle Boswell.

Houdan Cock and Hen—1, G. L. Hayden.

Langsham—1 in cock and hen, Chas. H. Smith.

Leghorn, White, S. C. Cock—1, W. J. Pickard; 2, John Whitlock; 3, Geo. Chilton.

Leghorn, White, S. C. Hen—1 and 3, John Whitlock; 2, W. J. Pickard.

Leghorn, Brown, S. C. Cock—1, Chas. Pippey; 2 and 3, John Whitlock.

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QUICK PURE
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You cannot always avoid coughs, colds, and La Grippe, but you can avoid letting them develop into more serious trouble. Veno's Lightning Cough Cure will stop an ordinary cough in one night if taken on the first indication of trouble. A dose in time may save you from long illness and heavy expense. Keep Veno's ready for use should you or your children need it. Being free from dope it is the safest remedy for children. Veno's Lightning Cough Cure is the famous British remedy, and is sold in every part of the British Empire. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

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(See Store Windows)

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WITH an ENTERPRISE HEAT ECONOMISER on this MONARCH range you have the latest and greatest invention of the age. Based on a scientific principle it saves fuel by saving heat. This one device will save a very large proportion of the first cost of your range in the course of a year.
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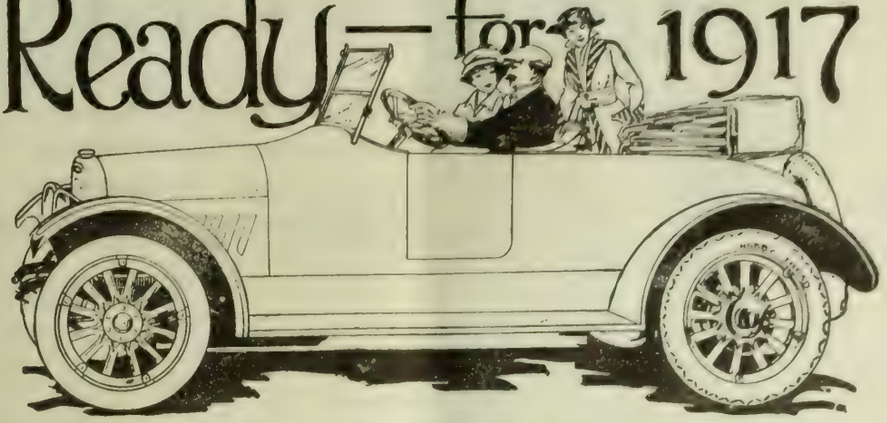

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SHAMROCK 4-PASSENGER ROADSTER

New Ideas in Design ! New Notions of Comfort !
New Proofs of Gigantic Power !

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Motor—Gray-Dort, 4 cylinder, cast en bloc, L-head type, bore 3¼ in., stroke 5 in., horse-power 28. Carter Carburetor. Thermosyphon cooling, pump and splash lubrication. Westinghouse two unit starting and lighting system. Connecticut battery ignition. Three speed and reverse selective transmission. Gasoline tank under cowl. Springs—front 37 in. elliptic, rear 50 in. full cantilever. Left hand drive. Centre control. 30 x 3½ Dominion tires. Nobby Tread rear. Westinghouse electric lighting. Linoleum covered running board. Lock ignition switch. Dashlight, ameter, robe rail, footrail, clear-vision windshield, one-man top, tools, equipment complete. Divided front seats, tilted windshield, wheel base 105 inches. Weight 2080 pounds.

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The biggest, best surprise for 1917 is here—a car that will merit the enthusiastic praise of Canadian motorists. Big and graceful; luxuriously roomy; a car whose style and character stand apart in any crowd. Examine this new Shamrock Gray-Dort Roadster.

A new-idea roadster—designed to hold the road, make easier-going. Yet roomy as a touring car, giving full comfort for four passengers. A car with roadster qualities and touring comfort. The ideal small-family car.

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Leghorn, Brown, S. C. Cock—1, Geo. Boswell; 2, John Whitlock; 3, Chas. Pippey.

Leghorn, Buff, S. C.—1 and 2 in cock and hen, Chas. Pippey.

Leghorn, Brown or White, P. C. Cock—1, John Whitlock; 2, Robt. Hudson, City; 3, Sidney Anman.

Leghorn, Brown or White, P. C. Hen—1, John Whitlock; 2, Sidney Enman; 3, Robt. Hudson.

Minorca, Black, S. C.—1, 2 and 3 in cock and hen—Wm. J. Cudmore.

Minorca Black, R. C.—1 in cock and hen, Chas. Pippey; 2 and 3 in cock and hen, Byrne Bros.

Orpington Buff Cock—1, C. P. Thorne; 2 and 3, Geo. C. Cudmore.

Orpington Buff Hen—1, 2 and 3, Geo. C. Cudmore.

Orpington A. O. V.—1 in cock and hen—John Y. McFadgeon.

Plymouth Rock Barred Cock—1, John Y. McFadgeon; 2 and 3, Geo. Crockett.

Plymouth Rock Barred Hen—1, W. J. Pickhard; 2, John Y. McFadgeon; 3, Sidney Enman.

Plymouth Rock White Cock—1 and 2, Mrs. Albert Boswell; 3, Chester C. Gregory.

Plymouth Rock White Hen—1 and 2, Chester C. Gregory; 3, Mrs. Albert Boswell.

Plymouth Rock Buff—1 and 2 in cock and hen, W. W. Osborne.

Rhode Island Red S. C.—1 in cock and hen, John Whitlock.

Rhode Island Red R. C.—1 and 2 in cock and hen, Seaman and Stewart.

Spanish Black—1 in cock and hen—R. B. McKinley; 2 in cock and hen, Donald McMillan.

Wyandotte White Cock—1 and 2, C. P. Thorne; 2, H. P. Jones.

Wyandotte White Hen—1, H. P. Jones; 2 and 3, C. P. Thorne.

Wyandotte Buff—1 in cock and hen, Wm. Beasley.

Dark Cornish Cock—1, Seaman & Stewart.

Breeding Pens

Leghorns—1 and 2, W. J. Pickard.

Minorcas—1 and 2, Wm. J. Cudmore.

Orpingtons—1, Geo. C. Cudmore.

Plymouth Rocks—1, Mrs. Albert Boswell; 2, Pope Noy.

Wyandotte—1, Spring Park Poultry Yard.

Rhode Island Reds—1, Seaman & Stewart.

Pen A. O. U.—1 and 2, Seaman & Stewart.

Turkeys

Turkeys, Bronze, male over 1 year—1, G. L. Hayden; 2, Sidney Enman; 3, Thos. Aylward.

Turkeys, Bronze, female over 1 year—1, Sidney Enman; 2, G. L. Hayden; 3, Thos. Aylward.

White Holland, male over 1 year—1, George A. McLean; 2, Thos. Aylward.

White Holland, female over 1 year—1, Thos. Aylward; 2, Geo. McLean.

Turkey A. O. V.—1 in male and female—Mrs. Albert Boswell.

Turkey, Bronze, hatched in 1916—1 in male and female, G. L. Hayden; 2, in male and female, Thos. Aylward.

White Holland, male hatched 1916—1, Wm. O'Brien, Windsor, N. S.; 2, Thos. Aylward.

White Holland, female hatched 1916—1, Thos. Aylward.

A. O. V., female hatched 1916—1, Mrs. Albert Boswell.

Geese

Toulouse, male over 1 year—1, Thos. Aylward; 2, Almon Boswell; 3, David Reid.

Toulouse, female over 1 year—1, Almon Boswell; 2 and 3, David Reid.

White Bremen or Emden, male over 1 year—1 and 2, Mrs. Albert Boswell; 3, R. B. McKinley.

White Bremen or Emden, female over 1 year—1 and 2, Mrs. Albert Boswell; 3, R. B. McKinley.

A. O. V., male over 1 year—1, John Tweedy; 2 and 3, Geo. A. McLean.

A. O. V., female—1 and 3, Geo. A. McLean; 2, John Tweedy.

Toulouse, male hatched 1916—1, Thos. Aylward; 2, Almon Boswall; 3, Byrne Bros.

Toulouse, female hatched 1916—1, Almon Boswell; 2, Thos. Aylward; 3, Byrne Bros.

White Bremen or Emden, male and female hatched 1916—1 and 2, Mrs. Albert Boswell.

Goose, A. O. V., hatched 1916, male —1, Geo. A. McLean; 2, John Tweedy.

A. O. V., hatched 1916, female—1, John Tweedy; 2, Geo. A. McLean.

Ducks

Rouen, male over 1 year—1, Alec Boswell; 2, Lyle Boswell; 3, Wm. O'Brien & Sons; 3, Lyle Boswell.

Rouen, female over 1 year—1, Alex Boswell; 2, Wm. O'Brien & Sons; 3, Lyle Boswell.

Pekin, male over 1 year—1 and 2, Mrs. Albert Boswell.

Pekin, female over 1 year—1, Mrs. Albert Boswell; 2, Spring Park Poultry Yards; 3, Pansy Haynes.

Duck, A. O. V., over 1 year—1 in male and female, Mrs. Albert Boswell; 2 in male and female, Spring Park Poultry Yards; 3 in male and female, Almon Boswell.

Rouen, hatched 1916—1 and 2 in male and female, Lyle Boswell; 3 in male and female, Almon Boswell.

Pekin, male hatched 1916—1 and 2, Mrs. Albert Boswell; 3, C. P. Thorne.

Pekin, female hatched 1916—1, C. P. Thorne; 2 and 3, Mrs. Albert Boswell.

Duck, A. O. V., male hatched 1916—1, Mrs. Albert Boswell; 2, Wm. O'Brien, 3, Thos. Aylward.

Duck, A. O. V., female—1, Mrs. Albert Boswell; 2, Thos. Aylward.

THE DUAL PURPOSE COW

(Continued from page 13)

in the London market. The merits of Red Polls as medium-sized dual-purpose cattle, and particularly, their reliability as milk producers, have led to their being exported in considerable numbers to practically all of the colonies, and to many foreign countries. In the United States they appear to be the most popular of the purely dual-purpose cattle, and are rapidly increasing in numbers," etc. Prof. Plumb, in his "Types and Breeds of Farm Animals," says of this breed: "Animals of this breed present the dual-purpose type in its truest form, for good specimens yield milk liberally and fatten satisfactorily on drying off, producing a good grade of beef." Prof. Thomas Shaw, of Minnesota, says, in his "Study of Breeds": "The medium-sized bodies and the inherited influences arising from environment adapt the Red Polls in an eminent degree to average arable conditions; and the same inheritance best adapts them to equable climates, although they will doubtless thrive in more severe climates as well as many other breeds. The Red Polls are more uniform and persistent in their milking qualities than many other breeds. The average weight of mature cows would be about 1200 to 1250 pounds. They stand midway between the Shorthorns and the Devons. They are most at home where food is plentiful, but can probably gather the same better than their heavier rivals. In no breed, perhaps, is the tendency so strong to produce abundantly when in milk, and at the same time to fatten rapidly when dry. The steers, though of good, fair size, fatten smoothly and cheaply, kill well, and make an excellent quality of beef. They are highly adapted for being crossed upon common stocks to improve them, both in form and utility. The progency have a close resemblance to the Red Polls in form, appearance and qualities."

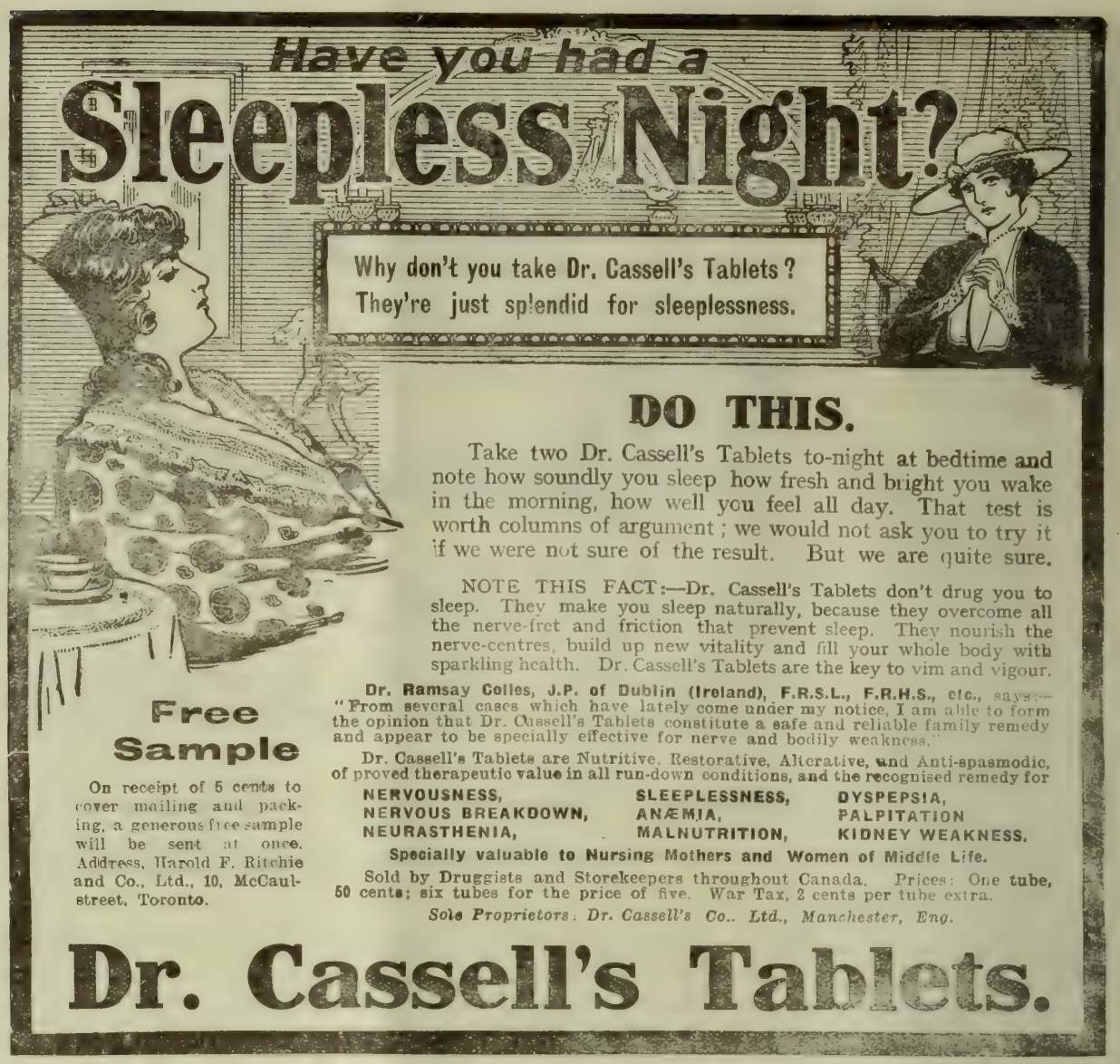
The Devon

With reference to the Devon, also classed with the dual-purpose breeds, the Cyclopaedia of American Agriculture says:—"While the Devons are not, primarily, dairy cattle, some splendid milk producers have been developed. Although the quantity of the milk yield is not large, the quality is good, which gives them definite value for butter-making. A chief recommendation of the Devon for beef is that it dresses out with little waste, and the meat is of very superior quality. The animals make good gains under stall-feeding, but cannot be forced to so great an extent as some of the other breeds, and generally are lighter when marketed. The breed is small (compared with the large beef breeds), which has sometimes militated against it for meat purposes. As grazing cattle, they stand in the front rank, as they are active and hardy, and have been accustomed to rustle on light, hilly pastures. Prepotency is a characteristic of the Devon cattle, due to their pure breeding for so long a period and when crossed on grade or common cows, the results are very satisfactory for both meat- and milk-production."

Prof. Wallace says of this breed, of which there are really two types in the old country, the North Devon and the South Devon:—"The original Devons were a working and grazing breed and the average cow is only a moderate milker, though greater attention is now paid to the milking powers, and there are several pedigree herds kept largely for dairy purposes. The milch cows retain their flesh well, and fatten into good beef after their fourth or fifth calf." Regarding the South Devon, the same authority remarks: "Within the last thirty years the South Devon has obtained a well-deserved recognition as a general-purpose animal. The breed has spread to the surrounding counties, and there is a growing demand for animals for shipment abroad. Cows of 900 and 1000 gallons of milk yield per annum exist in the best herds, and the milk is of a slightly higher quality than that of average dual-purpose cattle." The other authorities quoted have similar statements to make about this breed. Prof. Plumb says that:—"The Devon in grading or crossing has seen much service in the eastern United States. Owing to its long pure inheritance, the breed characteristics are usually strongly transmitted. Devon bulls on grade cows will produce a superior class of beef and rich milk." And Shaw states:—"Devons are noted rather for the quality than the quantity of their milk. Their good grazing qualities adapt them to localities where the land is broken, and the soil possessed of but moderate fertility; and their fair milking qualities fit them for situations where the arable portions of the land are small in proportion to pastoral, and where at the same time the system of farming is of the mixed order. The grazing qualities of the Devons are of the first order; they readily obtain a good livelihood on lands where the heavy-bodied breeds would probably fail; and when food is plentiful, they fatten quickly. They should answer well for crossing upon common stocks where the aim is to improve the ireasy keeping qualities without impairing their butter-producing powers. The grades from Devons are well adapted to the home (local) market, as they may be fattened at any age."

Such, then, is a brief summary of the opinions of some of the authorities with regard to these two breeds of dual-purpose cattle, and, to some extent, their suitability and adaptability; and I think there are, in reality, sections in our State in which this type of cattle would fit in admirably—in fact, better, perhaps, than either of the specialized types of purely-beef or purely-dairy animals. If, for ex-

(Continued on page 24)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Sleepless Night?
Why don't you take Dr. Cassell's Tablets?
They're just splendid for sleeplessness.
DO THIS.
Take two Dr. Cassell's Tablets to-night at bedtime and note how soundly you sleep how fresh and bright you wake in the morning, how well you feel all day. That test is worth columns of argument; we would not ask you to try it if we were not sure of the result. But we are quite sure.
NOTE THIS FACT:—Dr. Cassell's Tablets don't drug you to sleep. They make you sleep naturally, because they overcome all the nerve-fret and friction that prevent sleep. They nourish the nerve-centres, build up new vitality and fill your whole body with sparkling health. Dr. Cassell's Tablets are the key to vim and vigour.
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On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address, Harold F. Ritchie and Co., Ltd., 10, McCaul-street, Toronto.
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Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-spasmodic, of proved therapeutic value in all run-down conditions, and the recognised remedy for
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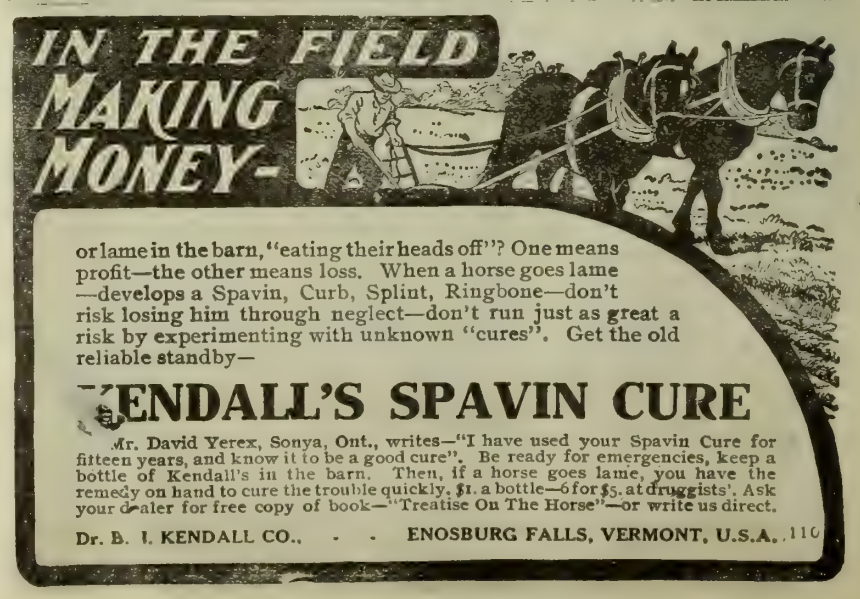
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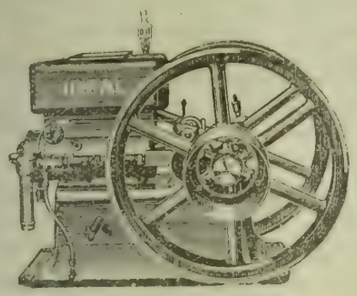

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Take Dr. Cassell's Instant Relief for constipation, biliousness, torpid liver, sick headache, dizziness, specks before the eyes, flatulence and windy spasms, acidity, heartburn, impure blood, and that dull, heavy feeling which is a sure indication of liver troubles.

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Prepared from LIVER TONICS, ANTACIDS, CARMINATIVES & LAXATIVES

The Maritime Poultry Show

Owing to the Winter Fair Buildings Amherst, being used for Military purposes, will be held this year in

Moncton, N. B.

Remember the Dates

DEC. 12, 13, 14, 15

Send for a copy of the prize list, then make entries and be sure to attend the big show

F. L. FULLER, Truro, N. S.

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Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

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Cann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls, N. B.

Guernsey Cattle.

T. D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorcheste , N. B.
James McKenny, Summerhill Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

Ayrshire Cattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
Hon. W. Owens, 4026 Dorchester St., Montreal.
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S.

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W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
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B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Oxford Down.

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shropshires

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Sydney J. Goodliffe, Sussex, N. B.

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co. N. S.
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Clover and Autumn Honey in pails of 5 and 50 pounds sizes. Warranted pure.

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Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
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Buff Wyandotte Cock and Hen, nice ones, $3 00 per pair.
White Wyandotte Cock, 4 Hens and 2 Pullets, $6.00.
White Leghorn Cockerel and 5 Hens, $5.00.
Also choice lot of White Leghorn Cockerels, $1.00 each, if taken at once.
Jersey Heifer Calf, 5 months.

ORCHARD HILL FARM
Brown's Flats, N. B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

THE DUAL PURPOSE COW

(Continued from page 22)

ample, this dual-purpose type of cattle had, years ago, been recommended, instead of the Jersey, to the hill farmers of North Louisiana, where the lack of transportation and marketing facilities, previously alluded to, prevailed, it is the writer's opinion that that section would now be possessed of a much more valuable class of cattle, in every way, than those which are there to be found at the present time, outside of some quite valuable breeding herds of Jerseys, especially. Or, in other words, what the conditions mentioned more particularly call for, is what might be termed "the farmer's cow," that will fill a dual-purpose place, rather than those belonging to the extreme or specialized types.

It should be understood, however, that it is not the writer's intention to minimise, or underrate, the value of any particular breed. Each has it own specific mission to fulfil, and each has its proper sphere. Our aim, at this time, is to try to adapt the most suitable animal to the conditions stated; and it is our conviction that the dual-purpose type, illustrated by the Red Poll and the Devon, should meet those conditions more satisfactorily than the other types. And, as a matter of preference, we believe we would favour the Red Poll on account of its being a hornless breed, and credited with being a somewhat larger milk producer.

One Cent a Word.

FOR SALE.—Four pure bred Southdown Ram Lambs and some good ewes, --JOHN McMULLIN, Georges River, C. B.

PRIVATE NURSES EASILY EARN $25 weekly. Conveniently learn d without leaving home Booklet free.—ROYAL COLLEGE OF SCIENCE, Dept. 113, Spadina Ave., Toronto, Canada.

FOR SALE.—Thirteen months old Guernsey bull, dam in advanced reg.—MRS. T.B.BLAIKIE, Great Village, N. S.

FOR SALE.—Registered Jersey Bull, two years and five months old. Write for particulars JAMES H. SUTHERLAND, River John Road, Col. Co., N. S.

FOR SALE.—Two York Boar Pigs, registered stock, one a year old, the other 6 months old, or will exchange one of them for York Sow.—A E. FERGUSON, Gowan Brae Farm, West Bathurst.

CANADIAN POULURY REVIEW, 39th year of publication. Bigger and better than ever. Departments conducted by specialists. Fifty cents year, three years one dollar. Sample free.—184 Adelaide St. West, Toronto, Ont.

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RESPONSIBLE POSITION WANTED by young married man, thoroughly conversant with live stock and capable of taking full charge of farming operations. For references apply to JAS. EASTON, Amherst, N. S.

SCOTCHMAN; married; thoroughly reliable; desires position of trust on farm; well up in all branches of farm work; not afraid to work; life's experience in taking care of stock; well recommended. Address J. B. E., 254 Church St., Amherst. N. S.

REGISTERED JERSEY BULLS FOR SALE. —One and two years old, from stock with good producing records, also Berkshire boars and sows ready for breeding, bred from Toronto champions. There is none better. Write for description and prices.—J. R. SEMPLE, Tatamagouche, N. S., R. R. 1.

FOR SALE.—Six horse power gasoline engine. called the Big Six, new, only used three days, steady work, with saw stand and tilting table and twenty-four inch saw, also grain grinder, never used, will keep three men busy passing cord wood to saw. Write W. H. KELLY, George's River, C. B.

Money-Making Farm, $1400

On state road, 1¼ mi es to village, with, high school, creamery, etc., only ½ mile to school and beautiful la e. 30 acres in smooth, level, dark soil, 40 acres brook watered pasture, estimated 300 cords hard wood, 50,000 ft. pine; 30 apple trees, pears and cherries. 2-story 9-room house, almost like new, 2 hen houses, nearly new barn. A dozen giant elms and maples shade the lawn, grand views. Aged owner must sell at once, makes low price $1400, part down, and throws in pair horses. cows, hogs. hens, dry stove wood, 20 tons hay, oats, 100 bush. potatoes, 10 bush. beans, apples and vegetables with wag ns, machinery and tools For details see page 4 "Strout's Peace and Plenty Catalogues," just out, co y free. E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

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R. O.M. and R. O. P. Holsteins

Would you like to get a good foundation? Holsteins of this calibre are seldom offered at any price, but we are overstocked and will offer::—

2 Daughters of "Ruby Nig" whose 7 day record is 567 lbs. milk, 25.60 lbs. butter; yearly record, 16,555 lbs. milk, 750 lbs. butter; the second highest record in Canada at 3 years of age.

2 Daughters of "Black Rose Beauty" whose record is 522 lbs. milk, 24.60 lbs butter in 7 days.

2 Daughters of Miss Rooker Posch, whose record is 402 lbs. milk, 16.114 lbs. butter in 7 days; 12,268 lbs. milk, 600 lbs. butter in one year, when 3 years old.

2 Daughters of Beauty Rooker, whose record at 2 years of age is 322 lbs. milk, 15½ lbs. butter in 7 days; 11,248 lbs. milk, 517 lbs. butter in one year.

And several others of equal breeding, sired by or bred to "Ida Rooker 2nds Vale," a sperior animal in every way and a proven producer of rich milkers. Also some extra nice bulls of the above breeding, all at reasonable pri es.

LEA & CLARK, Victoria, P. E.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

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Shorthorn Cattle !

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

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Offers for Sale :

Two cho ce young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

New Brunswick Grown Apple Trees

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Lowest Prices consistent with quality

Agents wanted in every district

ALBERT NURSERIES, Albert, N.B.

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We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

Eastern Karakule Sheep Co.
Limited
WINDSOR, N. S.

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Willow Glen Shorthorns

At present offering for sale—3 young Bulls and several Heifers, 1st prize winners in young herd at Halifax, all sired by champion bull, Statley Monarch

A. N. GRIFFIN, - New Minas

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

NOTICE !

to poultry dealers, country storekeepers, farmers or anyone interested in poultry. We are now issuing our weekly price list and will be pleased to send one each week to any person sending their names to

WALLERS', 712 Spadina Ave., Toronto
Crate-fed Chickens a Specialty.

LAWNDALE STOCK FARM
SHORTHORNS AND JERSEYS!

Our present offering in Shorthorns is a young bull, all red, dropped April 10th, 1916, out of the old champion, Merry Maid IV, and a few promising heifers, royally bred, also a very fine Jersey bull calf, out of a great producing dam. He was dropped in August, 1916. Can dispose of several grade Jersey heifers. Write for particulars. I. M. LOVITT, M. D.,
Yarmouth North, N. S.

ELMHURST FARM

Present offering of choice litters of pure-bred Berkshire pigs, ready for delivery. Also some choice Buff Orpingtons. R. R. BLACK, Proprietor.
Oxford Junction, N. S.

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Volume 23. SUSSEX, NEW BRUNSWICK, OCTOBER 24, 1916. Number 2.

THE YARMOUTH EXHIBITION

Yarmouth, the gateway of Western Nova Scotia, is annually the scene of one of the best County Exhibitions held in the Mayflower province.

The fair is held under the auspices of the Yarmouth County Agricultural Society whose membership comprise men of more than ordinary intelligence, industry and integrity in their legimitate venture they undertake. The calling.

Men of this class succeed in any The way the Yarmouthonians have stuck together and by friendly rivalry and example have helped each other along is worthy of the emulation of those in some other sections where bigoty, jealousy and lack of stick-to-it-iveness have been the cause for the untimely death or smothered growth of many good movements that had for their aim the bettering of local conditions.

The Yarmouth Exhibiton is purely agricultural and industrial. The limited number of side shows that managed to get a place on the grounds were starved out of the place for want of patronage. The yeomanry of Yarmouth County prefered to stand by the ringside and watch the judges place the awards in the cattle and horse classes or examining the various interesting exhibits in the main building.

That the ownership of a good class of live stock is an incentive for a higher class of citizenship and vica versa are maxims that is now general ly recognized by those who read the signs of the times. A visitor to the Yarmouth Exhibition could not fail to be impressed with the truth of this assertion. There is a lot of good live stock, particularly in the dairy lines in Yarmouth county and exhibitors seemed to take a lot of pride in their cattle and also to their own individual personal appearance all of which helps to give a fair a certain tone that the stranger within the gates cannot fail to notice and be impressed favorably thereby. October 4th to 6th inclusive were the dates of this year's fair during which time the weather man was in good humor and gave a brand of weather that everbody could enjoy.

THE HORSES

The horses were judged by Sherrit Harris of Pictou County. There was only one representative of the Standard Bred class, a mare shown by L. M. Hatfield in the four-year-old class. A brood mare with foal by her side had the earmarks of a thoroughbred if we mistake not. Hackneys were shown by Dr. C. A. Webster and Richard Bain. These were not the flashy kind, but good useful individuals. Clydesdales were few in numbers. The Society's Stallion, Bob McGregor was quartered on the grounds but not shown for competition. The only other Clydes were the mare Spring Fashon shown by H. P. Milestone, which was awarded the female championship and the brood mare Fair Maid with foal by he. side and a one-year-old shown by C. A. Webster, both youngsters by Bob McGregor. Roadsters made a good showing in the four-year-old section. There was very little competition in the other sections of the class.

Carriage horses four years old and over five in number. One-three-year-old three two-year-olds, two one-year olds and one foal of 1916 made up the remainder of the class. The diploma went to W. H. Palmers, yearling. General purpose horses made a good showing. Percheron, Clyde and Hackeney was in evidence.

The light draft horses had six entries in the aged section and in the section for foals of 1916. Five entries in the one-year-old section, three brood mares with foal by their side, two matched teams and single entries in the other sections made up the class. Fred L. Rose showed the best horse any age, a good useful animal byBaron Graham.

The four-year-old and one-year old sections of the heavy draught class were the only sections in which there was any copetition.

Baron Graham colts and fillies showed up well in their various sections in which they were exhibited. We overheard quite a number of farmers bemoaning the fact that they had allowed Baron Graham to be sold out of Yarmouth County. In the foals of 1916 and one-year-olds, some very promising youngsters the get of Bob Mc Gregor were shown.

CATTLE

All classes of beef and dairy cattle were judged by Mr. A. S. Logan, Amherst, N. S.

SHORTHORNS—Dr. I. M. Lovitt was the only exhibitor of Shorthorns and was awarded first prizes in the seven sections in which he had entries.

AYRSHIRES—were conspicious by their absence. A grade cow shown by Adolphus Corning was the nearest representative of that herd.

JERSEYS—There was a big showing of Jerseys. Baring the Gurnseys these were as many Jerseys on the fair grounds as of all other breeds combined. The whole aggregation showed that they were out for business. Cann Bros. were on hand with their magnificent herd, Dr. Lovitt, John C. Corning Adolphus Corning, Chas. Rogers and John L. Cann also showed some splendid females. The number of entries in each class and the list of prize winners will be found elsewhere in this issue. There was strong competition in each and every class of the Jersey grades class all of which showed the value of consistent breeding.

GUERNSEYS—Next to the Jerseys in point of numbers came the Guernseys H. W. Corning had a long string of his prize winners in the ring. W. L. Cook, A. J. Fuller, J. S. Boyd, Alfred C. Murray Crosby, the other exhibitors Servant, Clyde Boyd, Amos A. cook, of pure breds are young men who are starting with a few animals and building up. Mr. Cornings herd is certainly an ideal for these young men to look to and from which they can get assistance in their work.

All sections of the Guernsey grades class were strongly contested.

Holsteins and their grades were very few in numbers. Adolphus Corning and Edwin Porter were the only exhibitors of pure breds.

Hirefords and their grades were shown by Jas. B. Purdy, Webster Burrill, Samuel Burrill and Spenser Burrill.

Polled Angus cattle were exhibited by W. O. Porter.

A few Brown Swiss cattle, the first time they have put in an appearance at Yarmouth, were shown by H. E. Hill and Malcolm McKinnon.

Devons were shown by Wm. A. Pinckney.

WORKING OXEN AND STEERS.

There was a big showing of working oxen. This class comprised, three pairs seven years old, six pairs six years old, two pairs five years old, five pairs four years old and one pair in each of the sections of the younger classes.

The special flag for the best pair of matched oxen, 4 years old and upwards was captured by D. S. Saunders with his low set blocky yoke of white Shorthorn Oxen. This same yoke captured the first prize in the hauling competition and proudly led the live stock parade with their colors flying from their head yoke.

SHEEP

Matthew Lamont of Yarmouth County judged the sheep. There were several nice flocks but not much competition.

THE SWINE

The swine were judged by Mr. S. A. Logan. They were a thrifty looking lot but not so numerous as we would expect to find in such a good dairy section.

POULTRY

There was a good showing of poultry.

The main building was well filled with the exhibits of grains, roots vegetables and dairy products.

Various manufacturing firms doing business in Yarmouth County had well arranged booths at the fair.

The experimental section, Kentville sent a nice display along the lines shown at the provincial fair by the Dominion Department of Agriculture. The live stock division showed their educational exhibit of wool in its various forms and grades in order to give the sheep breeders of Yarmouth County a chance to acquaint themselves with the market requirements for wool

Geo. E. Saunders of the Entomological Laboratory, Annapolis Royal had an interesting exhibit of spraying material for the orchardist and farmer. The resultst of experiments to demonstrate the adhesive qualities of over thirty different spraying mixures were shown. The various sprays had been sprayed on pieces of glass and exposed to wind and weather and photos taken at intervales of eight, fourteen, fifty-seven and eighty-two days during which time at the various dates the rainfall in inches had been .98", 343", 7.34", and 8.94". Some of the sprays showed much better adhesive qualities than others. There were also photos showing the amount of settling at various periods after agigation. Here to there was a great variation which showed that some of the spray materials remain in suspention much better than others. We expect to be able to give our readers full details of these experiments for their guidance in the choice of spraying materials. The first show at Yarmouth excelled the first show at Halifax, which despite the fact that it wsa later in the season speaks well for the fruit growing possibilities of Yarmouth County.

Mr. Jas. Rozee of Yarmouth showed the result of an interesting experiment which he is conducting on the growing of potatoes from the seed balls.

In the spring of 1915 he planted the seed from one potato ball taken from a Green Mountain vine and in the fall he harvested fifty very small potatoes of various shapes that totalled 3 1-2 ounces in weight.

These fifty minature potatoes were planted in the spring of 1916 and this fall he harvested therefrom thirty five pounds of potatoes many of them of excellent type and of marketable size. Mr. Rozee will continue his expirement with the various types thus produced in 1917.

In the Dairy Produce class the the section for best and largest display of table butter made from the milkings of one cow during seven days in Sept. had two entries. The first prize went to Mrs. Edson Foote and the second to Mrs. W. H. McConnell. Mrs. Foots cow gave in seven davs 325 lbs. milk yielding 22 lbs. 14 ozs butter and Mrs. McConnell's cow gave 308 lbs. milk yielding 19 lbs. butter.

THE PRIZE WINNERS.

HORSES

Standard Breds—Mare, 4 years old. —1 entry—1, L. M. Hatfield.

Brood Mare with foal—1 entry—1 Jerry Morton.

Hackneys—Stallion, 3 years old— 1 entry—1, Richard Bain.

Mare, 4 years old—1 entry—Chas. A. Bain.

Filly, 3 years old—1 entry—Chas A. Webster.

Brood Mare with foal—1 entry —1 Richard Bain.

Sttallion, any age—1 entry—1, Richard Bain.

Mare, any age—2 entries—Chas. A Webster.

CLYDESDALES.

Stallon, 1year old—1 entry—1, H. P. Milestone.

Foal of 1916—1 entry—1, C. A. Webster.

Brood Mare with foal—1, entry — 1, C. A. Webster.
Mare any age—1, H. P. Melistone.

ROADSTERS

Mare or gelding 4 years old, 7 entries, 1, Adolphus Corning, 2, H. Churchill, 3, Geo. J. Bain.
Filly or gelding 2 years old, 1 entry 1, Mrs. F. P. Stubbord.
Filly or gelding, 1 year old 2 entries, 1, Earle Rankin, 2, Mrs. Edson Foote.
Foal of 1916—1 entry, 1 Jerry Morton.

CARRIAGE HORSES

Mare or gelding, 4 years old—5 entries, 1, Geo. J. Bain, 2, George J. Bain, 3, Mrs. J. W. Bain.
Filly or gelding, 3 years old—1 entry 1, Gordon Sweeney.
Filly or gelding 2 years old—3 entries, 1, Wm. A. Killam, 2, Omar K. Milestone, 3, W. Heimeon.
Filly or gelding, 1 year old—2 entries, 1, W. H. Palmer, 2, W. H. McConnell Foal of, 1916—1 entry 1, Richard Bain.
Best mare gelding any age—3 entries Diploma, W. H. Palmer.

GENERAL PURPOSE HORSE

Mare or gelding, 4 year old—7 entries, 1, Keith Boyd, 2, Roy Cleveland, 3, Ross Durkee.
Filly or gelding 2 year old— entry, 1, Carl S. Boyd.
Filly or gelding, 1 year old—3 entries, 1, Roy Cleveland, 2, Mrs. Clifford Cann, 3, Geo. W. Killam.
Foal of 1916—2 entries, 1, J. S. Boyd, 2, John L. Cann.
Broodmare with fool—3 ehtries, 1, J. S. Boyd, 2, W. H. McConnell, 3, John L. Cann.
Matched pair—1 entry, 1, Nathan Murphy.
Best mare or gelding, any age—1, Nathan Murphy.
Light draft horse, mare or gelding, 4 year old—6 entries, 1, Fred L. Rose, 2, Amos A. Cook, 3, J. S. Boyd.
Filly or gelding, 3 year old—1 entry, 1, Fred Phillips.
Filly or gelding, 2 year old—1 entry, 1, Geo. Palton,
Filly or gelding, 1 year old—5 entries 1, Ross Durkee, 2, Hy. Pitman, 3, Adolphus Corning.
Foal of 1916—6 entries 1,B. B. Killam, 2, W. H. McConnell, 3, Rupert Pitman.
Broodmare with foal—3 entries, 1, J. B. B. Killam, 2, Gorden Lewis, 3, Mrs. Edward F. Cann.
Matched pairs—2 entries, 1, Harry Boyd, 2, Hugh B Cooke.
Best mare or geelding, any ago—1, Fred L. Rose.

HEAVY DRAUGHT

Mare or gelding, 4 year old—4 entries 1, Frank Frost, 2, Mrs. Veernon Allen, 3, Robert S. Corning.
Filly or gelding, 3 year old—1 entry 1, Henry McKenna.
Filly or gelding, 2 year old—1 entry, 1, W. A. Churchill.
Filly or gelding, 1 year old—2 entries 1, Benj. Bain, 2, John L. Cann.
Fool of 1916—1entry, 1, Benj. Bain.
Brood mare with foal—1 entry, 1, Benj. Bain.
Best mare or gelding, any age, 1, Frank Frost.
Hackney Special—1, C. A. Webster.
Special for roadsters—5 entries, 1, Adolph Corning, 2, L. M. Hatfield, 3, Hub Churchill.
Special for carriage horses—4 entries 1, Geo. J. Bain, 2, Geo. J. Bain, 3, Keith Boyd.

CATTLE

Shorthorns—Dr. I. M. Lovitt was the only exhibitor of Shorthorns and was awarded first prize in the seven sections in which he had entries.
Ayrshire Grades—Cow 4 year old and upwards, 1 entry, 1, Adolph Corning.
Jerseys—Bull, 3 years old and upwards, 2 entries, 1, Cann Bros, 2, John C. Corning.
Bull 2 years old—3 entries, 1, Arthur Spears, 2, Amos A. Cook, 3, Kinney Kortien.
Bull 1 year old—6 entries, 1, Edward Rose, 2, Yarmouth Township Agri. society, 3, Frank Cook.
Bull, Senior Calf—3 entries, 1, H. P. Milestone, 2, John C. Corning, 3, Chas. Rogers.
Bull, Junior Calf—2 entries, 1 and 2 Cann Bros.
Cow 4 year old—5 entries, 1 and 2 Cann Bros, 3, Dr. I. M. Lovett,
Cow, 3 year old—7 entries, 1 and 2 Cann Bros., 3, John C. Corning.
Heifer, 2 year old, in milk—2 entries 1, John C. Corning, 2 Cann Bros.
Heifer, 2 year old—2 entries, 1, Cann Bros. 2, Adolphus Corning.
Heifer, senior yearling—5 entries, 1, Chas. Rogers, 2, Cann Bros., 3, John L. Cann.
Heifer, junior yearling—4 entries 1 and 2 Cann Bros., 3, Adolphus Corning.
Heifer, senior calf—7 entries, 1 and 2 Chas. Rogers, 3, Cann Bros.
Heifer, junior calf—5 entries, 1, Dr. I. M. Lovitt, 2 and 3 Cann Bros.
Jersey Grades—Cow 4 years old—6 entries, 1, Ross Durkee, 2 John C. Corning, 3, Frank Cook.
Cow, 3 years old—4 entries, 1, Mrs. H. E. Barber, 2, Ross Durkee, 3, Adolphus Corning.
Cow, 2 years old—3 entries, 1, Alfred C. Sarrant, 2, Loyd W. Cook, 3, Hugh B. Cook.
Heifer calf, 6 and under—1, Wm. A Pinckney.
Champion Bull—Diploma, Wm. A Pinckney.
Champion female—Diploma, 1, Wm. A. Pinckney.
Bull and three of his get Diploma, Wm. A. Pinckney.
Female and two of her offspring, Wm A Pinckney.

DEVONS GRADES

Grade cow 4 yeears old and upwards,—1, Richard Bain, 2, Harold Pinckney, 3, Renfew Mach. Co. (Stubbert).
Sr. 18 months old and and under 2 years—1 Henry Pitman.
Jr. 1 year and under 18 months—1, Harold Pinckney.
Grade heifer calf 6 mos and over—1, Harold Pinchney.

GUERNSEYS REGISTERED

Bull 3 years old and upwards—1, Howard Corning, 2, W. L. Cook.
Bull 1 year old—1, W. L Cook, 2, H. W. Corning, 3, A. J. Fuller.
Bull calf 6 months and over—1, J. S. Boyd, 2 and 3 H. W. Corning.
Bull calf 6 mos. and under—1, H. W. Corning, 2, Alf C. Sewart, 3, Clyde Boyd.

Nova Scotia Judges of Field Crops Competition receiving introductions from S. J. Moore at Agricultural College, Truro, N. S., August 15th.—1, Howard Trueman; 2, S. J. Moore; 3, A. C. Tattrie; 4, F. L. Fuller; 5, True Hodson; 6, Thos. Munn; 7, Wm. Byers; 8, H. Langille; 9, Jas. Dickson; 10, A. B. McDonald; 11, H. S. Cunningham. Photo by J. P. Landry.

Heifer, 2 year old—1 entry, 1, Clarence A. Trefry.
Heifer, Senior yearling—6 entries, 1, Horald Pinckney, 2, W. A. Churchill, 3, Ross Durkee.
Heifer, junior yearling—5 entries, 1, Bradford Crosby, 2, Guy W. Earl, 3, Ross Durkee.
Heffer, senior calf—3 entries, 1, John C. Corning, 2, Hugh B. Cook, 3, W. A. Churchill.
Heifer, junior calf—3 entries, 1, Vernon Cleveland, 2, Harold Pinckney, 3, John Deveau.

DEVONS REGISTERED

Bull, 3 years old and upwards, 1, Wm. A. Pinckney.
Bull, 2 years old, 1, Wm. A. Pinckney.
Bull 1 year old, 1 and 2 Wm. A. Pinckney.
Bull Calf, 6 mos. and over, 1, Wm. A. Pinckney.
Bull calf, 6 mos. and under, 1, Harold Pinckney.
Cow 4 years old and upwards, 1, 2, and 3, Wm. A. Pinckney.
Cow 3 years old—1, Wm. A. Pinckney.
Heifer in milk, 2 years old—1, Wm. A. Pinckney.
Heifer dry 2 years old—1, Wm. A. Pinckney.
Sr. 18 months old and under 2 years —1, Wm. A. Pinckney.
Heifer calf 6 months old and over—1, Wm. A. Pinckney.
Cow 4 years old and upwards, 1, 2, and 3, H. W. Corning.
Cow 3 years old—1, Alf C. Sewant, 2, H. W. Corning.
Heifer in milk 2 years old—1, Alf. C. Sewant, 2, Clyde Boyd, 3, Amos. A. Cook.
Heifer dry 2 years old—, H. W. Corning, 2, W. L. Cook.
Sr. 18 months old and under 2 years —Murray Crosby, 2 and 3, H. W. Corning.
Jr. 1 year and under 18 months—1 and 2 H. W. Corning, 3, Alf. C. Sewant
Champion Bull—H. W. Corning, Diploma.
Champion female—H. W. Corning, Diploma.
Bull and three of his get, H. W. Corning, Diplama.
Female and two of her offspring—H. W. Corning, Diploma.

GUERNSEY GRADES

Grade cow, 4 years and upwards—1 and 3, Ross Durkee, 2, Cecil Murphy.
Grade cow, 3 years old—1, John Deveau.
Heifer, 2 years old in milk—1. John Deveau, 2, Lloyd W. Cook.
Grade Heifer, 2 years old, dry, 1, Murray Crosby.
Sr. 18 months and under 2 years, 1, Guy W. Earle, 2, Edwin Porter.
Jr. 1 year and under 18 months—1, Earl Ramkin, 2, Henry Pitman, 3 Guy W. Earle.
Heifer calf 6 months and over—1, Henry Pitman, 2, J. S. Boyd, 3, Earl Rankin.
Heifer calf 6 month and under—1, Alf. C. Sewant, 2, Vernon Cleavelend, 3, Alf C. Sewant.

ENTRIES 103 HOLSTEIN

REGISTERED

Bull 2 years old—1, Adolph Corning
Cow 4 years old and upwards—1 and 2 Adolph Corning, 3, Edwin Porter
Heifer in milk, 2 years old—1, A. J. Fuller.

GRADE HOLSTEINS

Grade cow 4 years and upwards-1, J. S. Boyd, 2 and 3 Ross Durkee.
Grade cow 3 years old—1, Murray McConnell.

HEREFORDS REG.

Bull 1 year old, 1 entry—1, Jas. B. Purdy.
All other prizes in the Hereford class with the exception of first prize on senior an junior calves which were captured by Webster Burrell went to Geo. A. Burrell, without competition.

HEREFORD GRADES

Heifer jr. yearling 1 „entry—1, Samuel Burrell.
Heifer, jr. calf, 2 entries—1 and 2 Spencer Burrell.

POLLED ANGUS

W. O. Porter was the only exhibitor of Polled Angus cattle and their grades.

BROWN SWISS

All prizes went to H. E. Hill with the exception of junior yearling grade heifer which went to Malcolm McKinnon.

CATTLE

Oxen, Steer,s etc.—Yoke Working Oxen, 7 years old and over—1, Saml. Burrill, 2,Geo. W. Churchill, 3, Arthur Shears.
Yoke working oxen, 6 years old—1, I. M. Lovitt, 2, Lyman J. Crosby, 3, Comfort Clements.
Yoke working oxen, 5 years old—1, Edson Foot, 2, John C. Corning.
Yoke working ox en, 4 years old—1, Frank Cook, 2, Edward F. Sann, 3, Clifford Durkee.
Yoke steers, 3 years old—1, Gearge Harrf.
Yoke steers, 2 years old—1, Harvey Lefuy.
Yoke steers, 1 year old—1, Edward F. Cann.
Pair steer calves, 6 months and over —1, Omar Roberts.
Special prize, (Flag) for best pair matched oxen, 4 years and upwards—1, D. S. Saunders.

BEEF CATTLE

Pair beef oxen, 4 years and upwards —1, Chas Lyons, 2, George Handy.
Pair beef steers, 3 years oid—1, Gilbert Allen.
Pair beef steers, 1 year old—1, W. Earl.
Beef cow, 3 years and upwards—1, Adolph Corning.
Entries 26. Judges Wm. A. Killam, H. Killam and Edward F. Cann.

HAULING MATCH—5 ENTRIES

1, D. S. Saunders, weight of oxeen 2830 lbs. hauled 4065 lbs.
2, I. M. Lovitt, weight oxeen 3300 lbs. hauled 4000 lbs.
3, Wm. O. Porter, weight of oxen 3400 hauled 3900 lbs.
4, F. L. Crosby, weight of oxen 2840 lbs., hauled 3600 lbs.

SHEEP—Colswolds

All prizes went to Fred L. Rose without competition with the exception of second and third prizes on shearling ewes which went to Geo. W. Churchil'

SHROPSHIRES

Ram, 2 shears and over, 1 entry—1, Chas A. Bulter.
Ram shearling, 2 entries— 1, Clarke Killam, 2, John C. Corning.
All other prizes in this class went to John C. Corning without competition.

SOUTHDOWNS

All prizes to Mathew Lament withou' competition.

OXFORDS

All prizes to Alvin Robbins without competition.

CHEVIOTS

Ram, 2 shears and over—1, Alvin Robbins.

DORSETS

All prizes to Alf. C. Sewant without competition.

GRADES AND CROSSES

Leicester ewe 2 shears and over—1, 2 and 3, Jas. C. Robbins.4

Leicester ewe, yearling—1, Jas. J. Robins, 2, Austin Robbins.

Leicester ewe lamb—1, Austin Rob bins.

Cotswold ewe, 2 shears and over—1, 2 and 3 Fred L. Rose.

Cotswold ewe, yearling—1 and 2 Geo. W. Churchill, 3, Fred L. Rose.

Shropshire ewe, 2 shears and over—1, 2 and 3 Chas H. Butler.

Shropshire ewe, yearling—1 and 2 Clarke Killam.

Shropshire ewe lamb—1, 2 and 3 B. B. Killam.

Cheviot ewe, 2 shears and over—1 and 2, Alvin Robbins, 3, Mrs. Alvin Robins.

Cheviot ewe, yearling—1, Alvin Robbins.

Cheviot ewe lamb—1 and 2, Mrs. Alvin Robbins.

Any other breed, ewe, 2 shears and over—1 and 2, Alvin Robbins.

A. O. V. ewe yearling—1, Geeo. W. Churchill, 2, Alvin Robbins.

A. O. V. ewe lamb—1, Alvin Robbins

Fat Wether or ewe—1, 2 and 3, Chas. H. Bulter.

Pen of lambs, ewes or wethers, 3 and over—1, E. B. Killam, 2, Austin Rob bins.

Grade Dorset, 2 shear ewes 1, Fannie Lewis.

Lewis, 2 and 3 Ruth Lewis.

Grade dorset shearling—1 and 2, Gertrude Lewis, 3, Alf C. Sewant.

Grade dorset, lamb ewe—1, A. C. Sewant.

Number of entries 88.

SWINE

Berkshire boar, under 1 year—1, Emerson Sewant.

Berkshire boar, over 1 year—1, Alf. Sewant, 2, Frank Cook.

Chester white sow, over 1 year—1 and 2, H. W. Corning.

Chester white sow, under 1 year—1, H. W. Corning.

Yorkshire sow, over 1 year—1, and2, W. A. Churchill, 3, John C. Corning.

Yorkshire sow under 1 year—1, W. A. Churchill, 2 and 3, John C. Corning.

Berkshire sow, 1 year old—1, Em. Servant, 2 A. C. Servant, 3 John C. Corning.

Berkshire sow, under 1 year—1 and 3, John C. Corning, 2, Emerson Servant

Grade sow, over 1 year—1, W. O. Porter, 2, John C. Corning, 3, Clifford Cann.

Grade sow, under 1 year—1, Mrs. Edward F. Cann, 2, Fred L. Rose, 3, Clifford Cann.

Barrow or sow for slaughtering, 1 year old—1, E. F. Cann.

SPRING PIG

1, W. O. Porter, 2, Fred L. Rose, 3, Mrs. Edward F. Cann.

Litter of sucking pigs, any breed—1, W. A. Churchill, 2, Clifford Cann, 3, Alf C. Servart.

Entries 37.

POULTRY

Brahams—light cock—1, Fred L. Rose.

Light Hen—1, 2 and 3 Fred L. Rose.

Plymouth Rocks—barred cock—1 and 2, Percy Carey.

Barred Hen—1 and 2 Leymone Crowell.

White Cock—1, Gilbert Allen.

White Hen—1, 2 and 3 Gilbert Allen

WYANDOTTS

Silver hen—1 and 2 Harveey Allen.

Buff cock—1 and 2 Wm. Peazley, Halifax.

Wyandottes buff hen—1 and 2, Wm. Beazley.

White cock—1, J. W. Bain, 2 G. Morton Pettel.

Whitehen—1 and 3, G. Morten Pettel 2, J. W. Bain.

LEGHORNES

White cock—1, F. C. Bowes, Halifax, 2, Hebert Lewis, 3, Gilbert Allen.

White hen—1 and 3, Gilbert Allen, 2, Ernest Crazie, Pt. William.

HAMBURGS

Silver spangled cocks—1 and 2, Vernon Allen.

Silver spangled hen—1, 2 and 3, Vernon Allen.

HONDANS

Cock—1 and 2, F. Bowes, 3, Jesse Moses.

Hen—1 and 2, C. F. Bowes, 3, Jesse Moses.

ORPINGTONS

Buff cock—1, C. F. Bowes.

Buff hen—1, C. F. Bowes.

Black hen—1 and 2 L. McKenna.

BANTAM

Buff Corhin cock—1, F. Fonlis, 2, Hebert Lewis, 3, A. H. Fonlis.

Buff cochin hen—1, Herbert Lewis, 2, F. Fonlis, 3, A. D. Fonlis.

BANTAM A. O. U.

Cock—1, Jesse Moses, 2, Ruth Lewis, 3, C. F. Bowes.

Hen—1, Jesse Moses, 2, Ruth Lewis, 3, L. McKenna.

RHODE ISLAND RED

S. C. cock—1 and 3, Clayton Bain, 2, Pearley D. Porter.

S. C. hen—1 and 2, Clayton Bain, 3, Pearley D. Porter.

R. C. cock—1, A. D. Fontes

R. C. hen, 1 and 2, A. D. Fontes.

LEGHORN

Brown Cockerel—1, John Deveau.

HAMBURGS

Silver Spangled Cockerel—1, Vernon I. Allen.

Silver Spangled Pullet—1, 2 and 3, Vernon I. Allen.

POLISH

Black Hen—1, Jesse Moses

Black Cockerel—1, Jesse Moses.

HOUDANS

Cockerel—1, Jesse Moses.

Pullet—1, C. F. Bowes.

ORPINGTON

Buff Cockerel—1, C. F. Bowes.

BANTAMS

Buff Cochin Cockerel—1, Froncelia Fonlis, 2, A. D. Fonlis.

Buff Cochin Pullet—1, A. D. Fonlis, 2 [illegible] Fonl

Bantam A. O. V., Pullet—1, Ruth Lewis

Bantam A. O. V., Cockerel—1, Ruth Lewis.

Rhode Island Reds, S. C. Cockerel—1 and 2, Clayton Bain, 3 James Fonlis.

S. C. Pullet—1, 2 and 3, Clayton Bain.

R. C. Cockerel—1, A. D. Fonlis

R. C. Pullet—1, James Fonlis. 2 and 3, D. Fonlis.

Silver campines, cockerel—1, Harold

Dairy Booth of the Nova Scotia Dept. of Agriculture at the Halifax Exhibition

SILVER CAMPINS

Cock—1, R. V. Trask, 2, Robert Spears.

Hen—1 and 2, R. V. Trask, 3 Robert Spears.

Golden campins cock—1, A. R. Ross.

Golden campins hen—1 and 2, A. R. Ross.

Columbiall yandotte A. O. U.—1, C. F Bowes.

Hen—C. F. Bowes.

Pen of adult breeding birds, 1 male, 3 females—1, Percy Carey.

Pen of jal chickens, not less than 6—1, Percy Carey, 2 G. Morton Pettel.

Entries 94.

PLYMOUTH ROCK

Barred cockerel—1 and 2, Percy Carey, 3, S. Crowell

Barred pullet—1, 2 and 3, Percy Carey.

White cockerel—1, Henry Pitman.

White pullet—1 and 2, Henry Pitman

WYANDOTTES

Silver cockeral—1 and 2, Harvey Allen.

Buff Cockerel—1, Wm. Beasley.

Buff Pullet—1, Wm. Beazley.

White cockerel—1, J. W. Bain, 2 nd 3 G. Morton Pettel.

White pullet—1 and 3, G. Morton Pettel, 2. J. W. Bain.

LEGHORNS

White cockerel—1 and 2. Ernest Craze, 3, Ralph Porter.

White Pullet—1, 2, and 3. Ernest Craze.

Silver campines pullet—1, Harold Burrill, 2, Robert Spears, 3, C. F. Bowes.

A. O. U. Red Sussex, cockerel, 1, 2, and 3, Percy Carey.

A. O. U. red sussex, pullet, 1 and 2, Percy Carey.

Best pair Tonlonse Gees, 1 year old and over—1, Isabel Churchill, 2, Lenley E. Porter, 3, Geo. W. Churchill.

Best pair Tonlonse Geese under 1 year, 1, Isabel Churchill, 2, Geo. W. Churchill.

Best pair Emden Geese, 1 year old and over—1, Mrs. Hebert Churchill, 2, Ruth Lewis.

Best pair Emden Geese under 1 year 1, Ruth Lewis, 2, Mrs Hebert Churchill 3, Ruth Lewis.

Best pair Pekin Ducks, 1 year and over—1, James Fonlis, 2 Ralph Porter 3, Frank Cushing.

Best pair Pekin Ducks, under 1 year—1, 2 and 3, Pearley D. Porter.

Best pair Porien Ducks, under 1 year—1, C. F. Bowes, 2, Mrs. Robert Pitman

Best pair Porien Ducks, 1 year and over—1, Mrs. Frank Cushing, 2, Ross Pinckney.

Best pair Indian Runner Ducks—1 and 2, C. F. Bowes.

Best pair Guinea Fowl—1, Lymon Karitem.

Best pair Guinea Pigs—1, Albert J. Cann.

Best pair Rabbits—1, J. S. Boyd, 2, Loyd W. Cook, 3, Irone Goldsmith.

Best pair Belgian Hares—1, C. F. Bowes, 2, Irone Goldsmith

Canadian Wild Geese—1, Joseph Pothier

Grain and Feed best [illegible] barley spring wheat 1,Alvin Churchill, 2, A. D. Palmer, 3, J. C. Corning.

Best 1-2 bus. barley—1, Geo. Pitman 2, John C. Corning, 3, John L. Cann.

Best 1-2 bus. spring rye—1, John C. Corning.

Best 1-2 bus. winter rye—, Gertrude Lewis, 2, Wm. A. Killam, 3,Alvin Churchill.

Best 1-2 bus. black oats—1, Murray McConnell, 2, JohnC.Corning.

Best 1-2 bus. white oats—1, John C. Corning, 2, Geo. Patten, 3 Cann Bros.

Best 25 lbs. buckweat—1, Chas E. Pitman, 2, Geo. Pitman.

Best 25 lbs. rye flower, Yarmouth growth and manufacture—1, Alvin Churchill, 2, Gertrude Lewis.

Best 12 ears yellow corn—1, A. K. Crosby.

Best 12 ears sweet corn—1, Geo. Pitman, 2, M. S. Crosby.

Best 12 ears pop corn—1, Jenette Porter, 2, Geo. Pitman, 3, Ralph Porter

Best pk. beans, white—1, James Gavel.

Best pk. pole beans—1, Albert D. Palmer, 2, John C. Corning, 3, R. V. Trask.

Best pk. bush beans, white, colored eyes—1, James Gavel, 2, Chas E. Pitman.

Best pk. mohawk beans—1, James Gavel, 2, Frank Whitehouse, 3, Bead Crosby.

Best pk. horticultural beans—1, Henry Pitman, 2, Alvin Churchill, 3, Chas. E. Pitman.

Best pk. bush beans, colored—1, Geo. Pitman.

Best pk. bush field peas—1, Albert J. Cann, 2, A. K. Crosby, 3, R. V. Trask.

Best pk. winkfield peas—1, Rose Pinkney, 2, R. V. Trask.

Best 5 lb. turnip seed—1, Cann Bros 2, John C. Corning, 3, A. K. Crosby.

Best 1 lb. cabbage seed—1, W. O. Porter.

Best 2 lb. Parsnip seed—1, John C. Corning, 2, Ross Pinkney.

Best 1 lb. Carrot seed—1, John C. Corning,

Entries in all classes 70.

PRESERVES, ETC.

Best collection of preserves, home made, not less than 6 jars—1, Mrs. Henry Burrill, 2, Gladys McConnell, 3, Mrs. R. E. Foot.

Best collection of pickles, home made—1, Mrs. G T. Allen, 2, Mrs. Gilbert Allen, 3 Mrs. R. E. Foot.

Best collection of canned vegetables—1, Gladys McConnell.

Best collection of canned fruit—1, Mrs. W. H. McConnell, 2, Mrs. Inglis Porter,

Best collection of horse radish—1, Mrs. G. T. Allen, 2, Mrs. Gilbert Allen, 3, Mrs. Wm. Pinkney.

Best exhibit of confectionery—1, Mrs. Jas. E. Hopkins, 2,Ethel Creelman

EGGS

Best 1 doz. heaviest brown eggs—1, Mrs. Robert Pitman, 2, Mrs. G. T. Allen 3, Pearley D. Porter.

Best 1 doz. heaviest white eggs—1, Mrs. Gilbert Allen, 2, Mrs. Robert Pitman, 3, Mrs G. I Allen.

Special prize domestic cooking from Robin Hood Flour—1, Annie M. Kinney

Special mention of exhibit of cake recommended for prize—Olive Deveau.

DAIRY PRODUCTS

Best crock of butter 25 lbs or over,—1, Mrs. John J. Corning 93.5, 2, Mrs. Wm. H. McConnell, 92, 3, Mrs. M. Shurr, 91, 4, Mrs. M. S. Crosby 88. 5. Mrs. W. O. Porter 87.

Best 5 lbs. butter, roll or print—1, Mrs. J. H. Cann 94, 2, Mrs. Geo. Patten 92.5, 3, Mrs. Olive Dercan 92. 4, Mrs. G. M. Shurr 91.75, 5, Mrs. Edson Foot 91.5.

Largest quantity table butter made from milkings one cow during 7 days in Sept.—1, Mrs. Edson Foot 91, 2, Mrs. W. M. McConnell.

Best exhibit in fancy package and design made at Dairy Farm—1, Mrs.

(Continued on page 31.)

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. When paid in advance 80 cts. Persons taking advantage of the 80 cent rate are only entitled to it by paying in advance each year. When subscription gets in arrears, $1.00 per year will be charged. Subscribers are requested to bear this in mind. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

OUR GUARANTEE.—With each subscriber to the MARITIME FARMER, we positively guarantee, while his subscription lasts, that no advertisement is allowed in our columns unless we believe that any subscriber can safely do business with the advertiser, and we agree to make good any loss which any such subscriber may sustain by trusting any such advertiser who may prove to be a deliberate swindler; but we do not undertake to adjust trifling differences between subscribers and responsible advertisers. To take advantage of this guarantee, written complaint must be made to the publisher within one week from the date of any unsatisfactory transaction, with proof of the swindle and loss, and within one month from the date when the advertisement appeared, and the subscriber must prove that in writing to the advertiser he said :—"I saw" your adv. in the MARITIME FARMER.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

OCTOBER 24, 1916

DATES OF ISSUE

November ..... 7—21
December ..... 5—19

INTERESTED IN BETTER CATTLE

There seems to be a general tendency to better cattle quality. Everybody is talking "better cattle, better bulls," until the common tail d of the ordinary herds are not in demand. This is the best possible evidence of a general cattle quality improvementthroughout the country When scrubs and culls are not wanted at any price for breeding purposes, there is hope of better cattle and better cattle. As the long as the farmer is satisfied with any kind of an old cow, there is not much evidence of cattle improvement.

The hope of this country, with both beef cattle and dairy cattle in competition with foreign countries, is to forge ahead in quality. The production of the best quality of beef cattle will pay when a poor quality of cattle would be produced at a loss. The same has been repeatedly illustrated in the milch cow population. The cow testing associations have proven that on some farms there are cows that have been kept year after year not paying for the feed they consumed, while others were making their owners a big profit. The intelligence of the cow owner or cattle owner is to be exercised in determining these conditions.

It is an old saying, in relation to such comparisions, "that the best is none too good." It is truly the case when applied to cattle. The cattle owners of the Maritime Provinces must awaken to a realization that they have competition in the matter of butter suqqly, and in order successfully to meet these conditions they must employ better breeding, they must make their land yield larger crops, and develop the beef yielding capacity of their cattle and the butter-fat qualities of their dairy cows. Larger yields of beef in their baby beef classes, and larger yields of milk in their dairy cow classes—this is the logical solution, and it is the only solution that is going to test out.

The spirit is now started in the people. Bulls are wanted, bulls are needed,but they must be bulls of good quality, and this demand is not yet filled. The tendency is now to raise more cattle, better quality of cattle than formerly, and this means disposing of the old bull and buying a better one. This is the most sensible way of accomplishing results.

THE FARMERS STATIONERY

Did you ever see a business house that answered their letters on plain paper? It is probable that you did not, and it is almost, if not, as important that the farmer have printed stationery, as it is for the business house.

Nearly all up-to-date farmers have a special line, it may be some line of live-stock, poultry grains, seeds, or fruits. Therefore, let him make this his special on his letterhead, making mention of some of the most important of his other lines. If he has a name for his farm, which is the case with most up-to-date farms at present, let this occupy a prominent place on his letterhead. However, care must be taken about too much printing on the letterhead, as this sometimes spoils the best effect.

THE MARITIME FARMER is equipped to do this sort of work. Submit your copy to us and have us make you a proof of it. If it suits, the printing may be done, otherwise a change can be made. In a general way the printed letterheads will cost but a trifle more than the same amount of paper in tablet form. It is also important to have the same amount of envelopes printed. Five hundred sheets of paper, with five hundred envelopes to match usually cost in the neighborhood of $2.50, an additional five hundred of each will not cost quite as much as the first five hundred. Your letter always attracts more attention, and is answered in a more business-like way when you have a printed letterhead.—

BURN OLD GRASS AND WEEDS

It has been pretty well established that the last season's grasses and weeds left along the roadsides, fences and out-of-the-way places, where crops were not produced or grazing animals given opportunity to eat, will become the breed ing grounds and winter quarters for many insects injurious to vegetation. Therefore every farmer should join in the effort to exterminate these pests It is a duty that the land owner or resident farmer owes himself, his neighbors and the general public welfare—to destroy these breeding grounds by burning off at the most opportune time for insect destruction.

Some farmers keep a little farm flock of sheep to attend to this kind of work. Where sheep are kept and given an opportunity to graze along such fence lines, roadways or idle grounds, they proceed in advance of the insects and carefully crop off all vegegation so closely that there is no winter protection left for a chinch bug, grasshopper egg or any other kind of insect. This is one of the economical advantages in keeping a few sheep on the farm.

The fall and winter burning of such places—and there are lots of them on all farms where grazing animals are not kept-is a duty that should not be overlooked or neglected. Any time in the winter when the ground is bare and the rubbish dry and easily fired will do, but should not be left later than February. If a systematic observance could be enforced among land owners there would soon be a marked difference in insect pests detrimental to the crop interests.

The time is coming and it is not far aff, when there will be a systematic war waged against all forms of injurious insects and a close observance in the protection of all insect-destroying birds. There must be a law for the enforcement of these demands, and people taught to observe them.

MAKE HIM A PARTENER

"I do not like farm life. It is too hard. I have to work 14 hours in the field and do a lot of chores in the morning and evening. Just as soon as I can I am going to get away from the farm and go into town," remarked a 16-year-old boy to me a short time ago. This boy came from a good home. His parents were very successful, but they were of the kind that believe in all work and no play. The boy was tired and discourged. He had nothing to look forward to. He was not consulted in making the plans for the work. Can you blame this young man for not being interested in farm life? He was used as a machine for production only. If this boy could develop a different view of farming and farm life he would make the most desirable farmer. To develop this view there must be the co-operation of the parents. The boy must be taken into partnership with the farming and the farmer.

RURAL CREDITS

Recurring to the question, "Why cannot the farmer secure his loans at the bank," remarks C. F. Davis of the Colorado Agricultural College, "let us see what kind of a loan he usually requires.

"If it is for the purpose of running through the season until his crop is made, or to hold a crop for favorable market conditions, or to handle stock through the feeding season, the loan may be considered as in the short-term class. If it is to be used for the purchase of land, the supplying of the farm with blooded stock or expensive machinery the loan must be for a longer time.

"Now, the farmer's source of income from which he must repay the loan is limited to his farming operations. Reserving out of the normal returns of his farm the keep of himself and family and a fair amount of upkeep, any remainer that may be left may be safely depended upon to pay off his loan. If he pledges himself to pay more than this he must lower his standard of living, or allow his farm to run down, or, finally, must fail to meet his obligations. . It is, therefore, necessary for the farmer to borrow, on the average, on short term, for a period of not less than one year, and on long term for periods of from ten to fifteen years to periods of twenty-five or even forty years.

"It is important that the money for the loan b easily found and procurable with as little burden of fees for commissions, examination and legal services as possible.

'The greater portion of the money loaned by the banks is money which they hold on deposit and which they must be ready on short notice to return to their depositors if it is called for. It is very evident that they cannot consider the long-term loans above described, and, as they are handling the money of other people, they must exercise the greatest care in the spection of the security offered, thus adding to the expense of the loan.

"Chattel security is of too perishable a nature to permit of being used with a bank loan.

"This brief statement shows, I believe, the principal reasons why the farmers and the banks can not hope to get together in the loan business."

YARMOUTH EXHIBITION PRIZE WINNERS.

(Continued from page 29.)

John C. Corning, 2, Mrs. C. H. Cann.

Best 5 lbs. roll or print butter made by girl under 15—1, Rubie McConnell, 2, Jenette Porter.

Entries 16. W. A. McKay, Judge.

VEGETABLES, ROOTS, ETC.

Best show of vegetables without regard to number of varities—1, Gilbert Allen.

POTATOES

1-2 bus. gold corn table use—1, Murray Crosby, 2, A. K. Crosby, 3, Stephen B. Churchill.

1-2 bus. beauty of hebrons—1, Murray Crosby, 2, A. K. Crosby, 3, James Gavel.

1-2 bus. pearl savorey,—1, Murray Crosby, 2 A. K. Crosby, 3, John C. Corning.

1-2 bus. white mountains—1, A. K. Crosby, 2, James Gavel, 3, Jesse Moses.

1-2 bus. home comforts—1, A. K. Crosby, 2, Stephen B. Churchill, 3, Mrs Chas. Doane.

1-2 bus. mortage lifter—1, Fred K. Whitehouse, 2, M. S. Crosby, 3, I. W. Bain.

1-2 bus. carmen—1, Chas W. Patten, 2, Albert D. Palmer, 3, Geo Patten.

1-2 bus. Lees favorite—1, Murray Crosby, 2, Emerson Sewant, 3, A. K. Crosby.

1-2 bus. Early Bangor—1, Murray Crosby, 2, Mrs. Chas Doane, 3, John C. Corning.

1-2 bus.Deleware—1, Chas W. Patten, 2, Mrs. Chas Doane.

1-2 bus. north king—1, G. I. Allen.

1-2 bus emigrant—1, Jesse Moses.

1-2 bus. twentieth century—1, Jesse Moses.

1-2 bus. Ivroton beauties—1, A. K. Crosby, 2, I. F. Palmer, 3, Geeo. Patten

Best 1-2 bus. A. V. not above named—1 and 2 Asa B. Pithan, 3, T. V. Butler 4, Chas. W. Patten, 5, I. W. Bain.

BEETS

Turnip blood beets—1, Alton Ricker, 2, James Gavel.

Egyptian blood beets — 1,Gilbert Allen, 2, Geo Patten,

Long blood beets—1, Robert W Churchill, 2 Stephen B. Churchill.

A. O. V. table use—1, H. E. Hill

6 largest turnip blood beet No. 1, tablee use—1, Robert Churchill, 2, Robert Gavel.

6 largest egyptian blod beets—1, Robt. Gaveel, 2, Adolph Wood.

Best largest long blood beets—1, Robt. W. Churchill.

6 largest yellow intrmediate mangol—1, Clark Killam.

Yellow globe mangolds — 1,Cann Bros.

6largest sugar beets—1, Cann Bros.

Best 6 swedish turnips—1, C. W. Patten, 2, James Gavel.

6 largest Swedish turnips, green top,—1, Wm. D. Pinckney, 2, Adolph Wood.

Best 6 swedish turnips, purple top—1, James Gavel,

Best 6 largest white globe turnips—1, Trask and Shand

6 largest white flap turnips—1, Wm. D. Pinckney.

6 largest turnips A. O. V.—1, Wm. D. Pinckney.

Entries 118.

PARSNIPS

Best 6 table use—1, James Gavel, 2 Mrs. Chas Doane.

Best 6 largest parsnips—1, A. K. Crosby, 2, Walter Churchill.

HORTICULTURE—APPLES

Best collection 20 varities named, grown in Yarmouth Co.—1, J. M. Porter, 2,Alfred Hamilton,3, M. S. Crosby, 4 S. W. Maslins.

Best collection fruit fresh or in acid grown in Yarmouth Co. not less than 20 or over 50—1, J. M. Porter, 2, S. W. Mailing, 3, James Gavel.

Best collection commercial apples, 10 varities, grown in Yarmouth Co.—1, J. M. Porter, 2, Alfreed Hamilton 3, M. S. Crosby 4 Adolph Wood.

Best collection of commercial apples 5 varities, grown in Yarmouth Co.—1, J. M. Porter, 2, M. S. Crosby, 3, Alf. Hamilton, 4 S. W. Mailing.

Best collection of apples not on list not less than 6 varities or more than 10—1, Alf. Hamilton, 2, M. S. Crosby, 3, S. W. Mailing.

Best barrel summer and fall apples, packed for market, grown in Yarmouth Co.—1, J. M. Porter, 2, M. S. Crosby, 3, Churchill and Hatfield.

Best box summer or fall apples, packed, grown in Yarmouth Co.—1, M. S. Crosby, 2, Freeman Crosby.

PEARS

Best collection of pears, not less than 6 varities named, 5 each—1, J. M. Porter, 2, S. W. Mailing.

GRAPES

Largest collection, varities from cold grapory, 2 bunches each—Claa Caie.

Best collection from cold grapery, not over 6 varities, 2 buncnhes each—1, J. M. Lovitt, 2 Clara Caie.

Best 8 bunches black hamburgs—1, J. M. Lovitt, 2, A. K. Crosby, 3, Clara Caie.

Best 3 bunches white—1, Clara Caie, 2, J. M. Lovitt, 3, A. K. Crosby.

Best 3 bunches red—1, Clara Caie, 2, A. K. Crosby.

Best 3 bunches, black allicants—1, J. M. Lovitt, 2, Clara Caie.

CRANBERRIES

Best pk. large or ovall—1, Fred K. Whitehouse, 2, Mrs. W. Hemeon, 3, A. K. Crosby.

Best pk. upland—1, Mrs. W. Hameon, 2, Ethel Handy.

Best pk. small red—1, Pearly B. Porter.

Best pk. spice or grey—1, Pearley D. Porter.

Judges, H. W. Osborne and R. G. Whitman.

Special prize for best booth and exhibit not otherwise provided for—1, Robin Hood Flour, representing Parker Eakins and Co.

1, R. K. Smith, Wall Paper. 2, Porter and Robins, Shoes, 2, R. H. Davis ,Bookbinding.

CONTENTS OF SILO

Please tell me how many tons of silage in the last 13 feet of a 11 x 30 ft. silo.

Also how many cubic feet of hay in the mow to a ton, and the weight of a cubic foot of potatoes in the bin.

O. B.

The last 13 feet of silage in a silo 11 x 30 feet will weigh approximately 30 tons.

The weight of a cubic foot of hay or the number of cubic feet of hay per ton will depend somewhat upon the kind of hay as well as its condition when put into the mow and the way it is packed. Loose hay will of course weighless and that which is thoroughly dry before being stored will not pack as well as that which is a little green. According to Woll, 450 cubic feet per ton is a fair average for hay in general. He gives 420 cubic feet for a ton of timothy hay and 500 cubic feet for clover hay.

Potatoes in the bin should weigh about 48.18 pounds per cubic foot.

TO TIE THE TREE

A small fruit trees that persist in leaning toward the east caused by the prevailance of west winds have to be looked after during the early years of fruit or else they will always be leaning.

We have found that a strip of an auto tire or an old bicycle tire and a stake set a foot or so to the westward of the small tree will hold the tree up where it belongs and not injur the trunk in any way.

A wire or strip of iron would hold the tree as well but there is the trouble about cutting into the bark as the tree grows and injures the trunk permanently. An advantage of the rubber tire is that they will give a little when the wind blows too hard and so hold the tree easier than an inflexible fastening would do.—R.E.R.

Candle the eggs carefully if you expect to set them. Too often they are shaken about and handled roughly, and this last of itself may be the sole cause of their failure to hatch. Eggs are often cracked slightly and the crack will not show. These will always break under the hen.

In many small communities the remedy for a poor market for fat hogs and other classes of finished live stock consists in producing four times as many. Buyers are attracted to places where carlots can be bought often. Community specialization is the gospel.

Is it Fair?

BELGIUM entered this war because she would not sell her honor to an overwhelmingly powerful neighbor. Britain and Canada took up arms in defense of treaty obligations and simple justice. The Belgian motive is as noble and unselfish as our own.

Belgian troops are holding the line side by side with our own gallant lads, braving equal dangers—bearing equal hardships—strafing the common enemy.

But there the equality ends! We non-combatant Canadians are living in a land of plenty—well-fed, lacking no necessity, and indulging in many luxuries.

The Belgian mothers and children in millions are eking out a pitiable existence on the daily ration of three slices of bread and a pint of soup supplied by the Belgian Relief Commission.

Is it fair?

Are we justified, before the bar of common humanity, in calmly feasting ourselves while they endure near-starvation?

What have YOU done to relieve them?

$2.50 will feed a Belgian family a month! The average Canadian family would scarcely miss this sum. You yourself could probably spare several times this much monthly—feed several Belgian families—and be none the worse off.

Will you do it?

Send your subscription weekly, monthly or in one lump sum to Local or Provincial Committees, or

Send Cheques Payable to Treasurer

Belgian Relief Fund

59 ST. PETER STREET, MONTREAL.

25

$2.50 Feeds a Belgian Family One Month.

HORTICULTURE.

THE OLD APPLE TREE

More and more as time passes, am I convinced that we must stop leaning and rely on our own eyesight, hearing and thinking. Science can do much, but the real test must be found in experience.

For nine seasons I have been trying to find out what certain trees wanted, for, while the great majority came back readily on the treatment given, certain few refused, and these have kept me busy. Somehow I did not want to be beaten by an apple tree, and so have kept at it, trying to find the treatment which suited the needs of the individual tree. Of one thing I am satisfied, that we must take into account this matter of individuality. You cannot treat trees in a bunch, all alike, and expect the best results. Of that I am satisfied. The best evidence to be found is that which the trees furnish, and by that my work must stand. In general, I am satisfied at the condition of those old trees thought practically worthless nine years ago, their growth, evidence of good health, large leavees, and amount and character of fruit.

Certain ones have refused to respond, and these have furnished good food for thought all these years. One in particular, and it is about that I want to tell, for to me it carries a lesson not to be overlooked This is a Rhode Island Greening tree standing alone in the field, in grass. In 1909 it was given a fair dose of Fisher Formula fertilizer. In '10 it was plowed about and cultivated, and also in '11 and '12, when tthe field was seeded down. In '13, '14 and '15 I gave it a good treatment with different combinations of chemicals—12 pounds yearly—but the tree persisted in throwing out small, pale leaves, making a couple of inches growth, and yielding about a barrel of apples yearly. Realizing that I was not getting hold of it, for its own good and giving it what it craved, yearly changes were made in food and treatment.

In August, 1915, I determined to try mulching, and gave it a foot or more of second crop, extending well out beyond the drip of the branches This spring I gave it another dose of the same, and fortunately hit on what the tree neded, for it is a pretty picture today with its wealth of large, strong leaves, its foot or more of new growth, the evidence of coming vigor and the three barrels or more of fruit ripening on its branches. Only by the actual test could I have known that it was the mulch which that individual tree wanted in order for it to jump into active work for my profit. All this time there are other trees which do not respond to mulching as well as to applications of fertilizer, forcing the lesson that for success, one must be looking after the individual needs of individual trees. Profoundly have I been impressed with this fact during the years, and every experiment trengthens the conviction.

I like also to think this is so, for to me it supplies the incentive for activity, as no man will want to acknowledge himself beaten by an apple tree. So much enters into this question of soil conditions, character of subsoil. etc., that to know all these things one needs to have actual touch come into real knowledge of what with his land and by experience to do.

During the years a wealth of advice has been showered upon me, and every theorist has known just what was necessary to restore, but unfortunately these good men knew nothing about that tree and their advice was worthless. Not one has ever suggested mulching, though several have been outspoken against it, citing the bulletins sent by our Station, in which the mulch system was decried. All the while that tree was crying for protection by mulching, and I did not know enough to understand its call. When I did, the tree responded. All this, if it suggests anything, forces the lesson of greater watchfulness on the part of each and every grower, and varying tests withindividual trees to ascertain what each one wants, in order for it to thrive. Of one thing I am convinced, that the trees are ready to do their best when we are alive to our opportunities and do our duty.

The time has come when we must seek for increased crop yield per tree, per year, and to insure this, closer study must be made of the wants of each tree and the supplying of the same. The average in Maine, if not all New England, is less than one barrel per tree yearly, where it might easily be two barrels.

Dr. G. M. Twitchell.

WANTS RELIEF

It is high time that something is done to prevent the reckless sale of nursery stock not true to name, have had several apples from that bag myself. I have not had much of an opportunity to consider this matter, but think some penalty equal to two or three times the purchase price would tend to make these people more careful. I doubt if a more stringent law could be passed at the present time.—F. C. Bancroft, Master Delaware Grange.

APPLES

Owing to the extreme prevalence of apple scab this season, there are many growers who intend to pack "special" No. 3 apples in order to distinguish such packs from the ordinary run of No. 3. Such grade marks will enable consumers to purchase sound fruit with only slight blemishes, at a comparatively low figure and will also enable the grower to net larger returns than he would receive for barrels marked only "No. 3." As a matter of fact, the fewer packages of No. 3 apples that reach the market, the more satisfactory will the fruit season be to all concerned.

There is no demand for "trash," a term most aptly applied to fruit often packed under the grade No. 3. Such fruit should never be packed at all, but should be sent to the evaporator or cider press. The grade "No. 3" has, unfortunately, become so common, and is so generally supposed to indicate inferior fruit, that the wisdom of adopting distinguishing marks for superior grades of No. 3 at once becomes apparent. Such terms as "Good No. 3," "Large No. 3," or "Special No. 3," provided the contents of packages so marked are honestly put up, are not contrary to the requirements of the Fruit Marks Act. The packing of inferior fruit or "trash" under such marks is, of course, against the law.

One word regarding the packing of apples in general. Growers must bear in mind the fact that Government fruit inspectors cannot be less severe, on account of a "bad year." The requirements of the Fruit Marks Act do not vary from year to year. Consequently apple packers should be careful to brand all packages with regard only to the quality of the fruit therein.

PACKING THE APPLE IN NEW BRUNSWICK

By A. C. Turney

A large portion of the New Brunswick apple crop is marketed in open barrels. The fruit is picked into baskets, emptied loosely into barrels in the orchard, and then stored in bins in the cellar, and afterwards placed on the local market, a few barrels at a time, unheaded. However, a considerable amount of early and late fall apples and some winter varieties are exported or shipped such distances within the province as to render good tight packing absolutely essential. The materials used and general method of procedure is as follows:

The Barrel and Its Preparation

The minimum size of a standard barrel containing 96 quarts, and made from 28-inch staves, commonly known as the Nova Scotia barrel, is used here. The dimensions of such a barrel as given in the Inspection and Sale Act, are as follows:—Between heads, 26½ inches inside measurement; head diameter, 17 inches inside measurement; middle diameter, 18½ inches inside measurement.

The hoops are made of birch or alder and are often split. The split hoops while lacking in neatness are cheaper and usually stronger. To prepare the barrel for filling, drive the quarter hoops down firmly and securely nail the face end. This is done by driving nails obliquely through the upper hoop, the end of the stave, and into each corner of each piece of the head. An additional nail or sometimes two, should be driven into the side pieces. In driving these nails, start them as low down on the end hoop as is possible, but do not let them come through the head. Use five penny nails for this purpose. Head liners are hardly used here at all, although they should be more generally used. They make the barrel safer and stronger and are really essential for export trade. Two liners over the ends of the pieces forming the head should be used, driving four to six nails through each one and clinching them on the outside of the barrel. Secure the quarter hoops by driving two nails, one on each side of the barrel, in a slanting direction, clinching them on the inside. If the hoops are split, drive an extra nail through the lock or lap of the hoop. Use three-penny nails for securing these hoops and for liners.

Facing

Place the barrel on a good stout plank and put in one of the heavy heads commonly used for this purpose. This gives a neater appearance to the barrel when opened and keeps the face apples cleaner and brighter. The face layer should be representative in size, color and freedom of blemish of the entire package. If it fails to do this, then the pack is dishonest and dishonest packing has thrown hundreds of thousands of apple trees into neglect and decay. Why? Because it doesn't pay. With a stemmer, cut off the stems of all the apples for the

Baby's Own Soap
6815
Its fragrance is pleasant
but the great value of Baby's Own Soap is its creamy softening lather which cleanses and beautifies the skin
Doctors and nurses recommend Baby's Own.
Albert Soaps Limited, Mfrs., Montreal
Sold everywhere.
Best for Baby - Best for You

Safety First
Every Farmer, Every Owner of Horses Should Use
RED TIP HORSESHOE CALKS
during the Winter Season.
Whether your horse is a light roadster or a heavy draught horse there is a calk made especially to fit his requirements. When worn down RED TIP HORSESHOE CALKS can be removed and a new set inserted in twenty minutes.
They will not break off and instead of becoming dull will wear sharper with use. By this method your horse is always sharp shod and you eliminate all the danger and worry of Winter travel.
RED TIP HORSESHOE CALKS are cheap, easy to get, easy to put on and will absolutely hold up any horse on any pavement or road, no matter how slippery. They will save time, money and annoyance.
Go to your horseshoer today and have your horse fitted with RED TIP HORSESHOE CALKS and remember that genuine NEVERSLIP HORSESHOE CALKS ALWAYS HAVE RED TIPS.
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NEVERSLIP MANUFACTURING CO.
NEW BRUNSWICK, N. J.

face layer and place them in position, stem end down, in a series of circles starting at the outside and working to the centre. Get the layer firm and uniform, being sure never to use a noticeably smaller or larger apple just because it will make the layer tight.

Filling and Packing

The barrel is now faced and after carefully placing apples so as to cover the open spaces in the face layer, it may be filled by emptying the apples in very carefully from the basket. As each basket or two baskets of apples are placed in the barrel, grasp the barrel firmly at the top and raise just one edge and then the other, see-saw fashion, about two inches from the plank on which it is setting, allowing the barrel to drop back each time sharply but not loosely or violently. A barrel should be racked at least three or four times during the filling. When filled to about two inches from the chime the barrel is ready for tailing and is prepared for this by using a barrel "follower," which consists of a round piece of plank, smaller than the head of a barrel so that it will fit nicely inside and padded on the underside with felt. This is placed on the apples and held firmly when giving the last rack to the barrel and leaves a fairly even surface on which to arrange the top rows, or "tail up," as it is commonly spoken of.

Tailing

This is the most difficult part in the packing of a barrel of apples, and is often only half done or omitted to save time. The object is to arrange the last two rows of apples as firmly as possible and in such a way that when the head is placed on it will touch every apple evenly, distributing the pressure over the whole of the layer and transmitting it evenly down through the barrel. The apples of this last layer should be placed stem end up, the stems being shortened as in the face layer, and should bring the surface of the fruit level with or slightly above the top of the stave, depending considerably on the variety to be packed and the distance to be shipped. Tender skinned varieties such as the McIntosh Red and Northern Spy should not be filled more than level with the top of the barrel and perhaps even less for comparatively local markets. On the other hand, solid, tough skinned varieties like the Ben Davis and Golden Russett should be tailed higher, as they need more pressure to prevent slacking in export shipping, probably about an inch above the top of barrel for export and less for local markets.

Heading

Remove the upper hoop of the barrel and loosen the next one; lay the head in position, catch the screw press under the barrel and arrange the circular press head in position. Everything is now ready for applying the pressure, except that the top hoop should be slipped on loosely, so that after the head has been pressed down into the chime, the hoop may be driven into place without removing the press, but first driving the second hoop down into place. Nail the head in the same manner as in the face end, using liners. Stencil the face end and then lay the barrel on its side. If packing in the orchard, remove the packed barrels to some place of shelter where they will be cool but not subject to freezing temperature, and under no conditions allow them to be on the ground in the orchard or to be exposed to rains.

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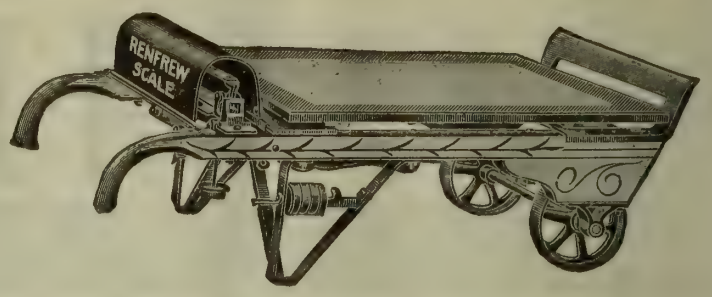

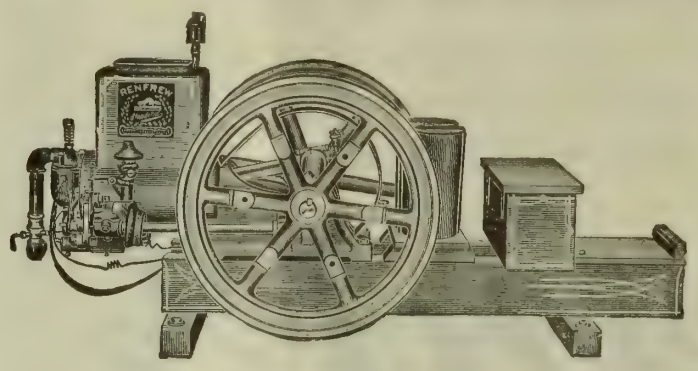

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DAIRYING.

EFFECT OF BACTERIA IN MILK

Bacteria are minute living things possessing some characteristics of both plants and animals. Some of them have the power of moving when in water. Otherwise they resemble plants. There are various kinds of bacteria, some of which cause diseases in both plants and animals, the action of others results in decay, putrefaction, and fermentation. Some are harmless, while others are distinctly beneficial. Each disease, whether of animals or plants and other organic changes of similar specific organism which begins its work as soon as favorable conditions appear.

The bacteria which cause the changes in milk may be divided principally into two groups, viz.:

1. Those causing the souring of milk.
2. Those causing sweet curdling.

Other bacterial changes do occur, resulting in the formation of blue, red, bitter, and ropy milk but such conditions are not common. Each of these changes is effected by a different organism, but it is seldom that they find conditions in the milk suitable for their growth.

The lactic acid bacteria, causing the souring of milk, are by far the most common, and are responsible for most of the losses occurring in milk and cream.

Milk provides a particularly favorable medium for the growth of these bacteria. No matter what other bacteria are present, they are almost sure to make their appearance and to cause changes that make conditions unfavorable for the growth of other organisms. This explains why bitter, red or blue milk is seldom seen, as even though the milk may not be sour there is sufficient acid present to prevent the development of other forms of bacteria.

The lactic acid bacteria increase most rapidly when milk is at a temperature of 70 degrees. The results of experiments show that in milk kept at 50 degrees the bacteria increases in number five times in twenty-four hours, whereas at a temperature of 70 degrees the increase was seven hundred and fifty fold. Sometimes it has been found possible to keep milk for two weeks or more without becoming noticeably injured by bacteria when maintained at a temperature of 50 degrees. If kept at a lower temperature the milk will keep still longer. This, of course, is seldom possible on the farm. The value of these facts is patent to all. They show that the maintenance of a low temperature is a most essential factor in the keeping of milk. The same precaution should be taken with cream. Sweet cream always commands a higher price than sour cream at creameries where the cream is graded.

The most practical and feasible method of controlling the bacterial development in milk or cream is to prevent the entrance of the germs into it. To do this, requires that precautions be taken in every operation connected with the production of the milk.

Sourses of Bacteria in Milk

The milk secreted by the milk glands of healthy cows contains no bacteria, but that drawn from the cow's udder is seldom entirely free from them. It has been demonstrated that bacteria may enter the udder through the teats and spread through the milk ducts. Most of them, however, will be found in the teat itself. For this reason, it is advisable to milk the first few draws on the ground.

Air in the Stable

All air contains germs, but that in the stable shows marked increase in germ content over the air outside. On this account, milk drawn outside is generally purer than that milked inside. It is important, then, that the dust should not be stirred up in the stable at milking time, otherwise, a large number of bacteria may find their way into the milk. The walls, floors, and ceilings should be kept as clean as possible at all times in an endeavor to keep the air pure.

The Cow

The small straws, particles of manure, and hair are all sources of contamination when they get into the milk. The solid particles that fall into the milk all act as carriers of germs, and the greater the amount of dirt, the less satisfactory are the keeping

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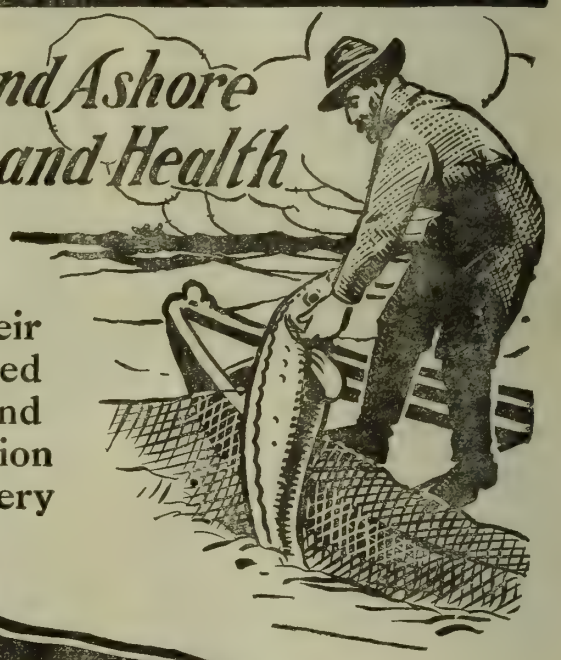

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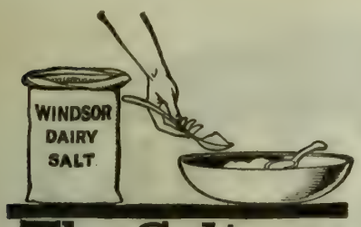

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qualities of the milk. Wiping the flanks and udder of the cow with a damp cloth just before milking will reduce the possibility of contamination from the source to a minimum.

The Milker

The hands and clothing of the milker are frequent sources of contamination. The hands should always be washed and the clothing kept as clean as possible. A white duck carpenter's apron, with a bib attached, to wear while milking, will aid materially in keeping the milk clean.

Milking with wet hands should never be allowed, as the germs which may be present on the teats of the cow and the hands of the milker, are more readily washed into the pail.

The Utensils

The thorough cleansing of the milk pails is a very important matter. They should be washed first with warm water and then thoroughly scalded with boiling water. To make the work of washing more easy, it is advisable to use seamless pails in which the bottom is rounded nicely into the sides. This avoids crevices in which bacteria might lodge.

Milk should always be strained through several thicknesses of cheesecloth. If a thin layer of absorbent cotton is placed between the folds, practically every particle of dirt and many of the bacteria will be taken out of the milk. The ordinary wire strainer is of little use, as the fine particles of dirt are easily washed through.

THE CREAMING ABILITY OF MILK

The percentage of fat does not entirely determine the creaming ability of milk, according to the Iowa Agricultural College. A summary of the results of an investigation conducted by this institution follows:

1. Wide variations exist in the creaming ability of various lots of milk and accordingly in the cream equivalents of 1 per cent. fat.

2. The individuality of the animal is an important factor from the standpoint of the creaming ability of milk.

3. Factors, such as the stage of lactation of the animal and the breed, are of important from the standpoint of the creaming ability of milk.

4. The temperature at which milk is held influences very materially the depth of the cream layer thrown up. low temperatures giving deeper cream layers than high temperatures. For the development of a deep cream layer on milk, the milk should be held at as low a temperature as possible, although this temperature should be above the freezing point of milk.

5. At ice water temperature, in general, a deep cream layer is first formed and this gradually contracts as the milk stands. At room temperature, in general, a shallow cream layer is first formed and this increases as the milk stands. Commonly a definite cream layer is evident at room temperature earlier than at ice water temperature.

6. With the milk from individual animals, low temperatures occasionally prevent the development of a definite cream layer.

7. The original temperature ordinarily has little influence on the creaming ability of milk.

8. Continued creaming tends to decrease the creaming ability of milk, although occasionally increases are observed. Continued creaming also decreases the distinctness of the cream layer.

9. Agitation at ordinary temperatures does not seriously decrease the creaming ability of milk and occasionally there is a slight increase.

10. Clarification consistently causes a slight decrease in the creaming ability of milk, but this decrease is too small to be of any practical importance.

11. Running milk through a separator and then mixing the cream and skim-milk commonly causes a slight decrease in the depth of the cream layer developing on milk; the rate of the rising of the cream is also decreased. Wide variations are, however, encountered in the effect of separation on milk.

12. Viscogen comonly increases the depth of the cream layer on milk and sometimes this increase is an enormous one; wide variations are, however, evident in the effect of a certain amount of viscogen. The use of visocgen to improve the creaming ability of milk can not be considered a legitimate method of increasing the depth of the cream layer.

13. The addition of egg white commonly causes a slight decrease in the depth of the cream layer.

14. A change in temperature influences the depth of the cream layer on creamed milk. With bottles, a decrease in temperature increases the depth of the cream layer and an increase in temperature decreases it. With tubes, a decrease in temperature causes only a slight decrease which may be due simply to continued holding.

15. In general, efficient pasteurization decreases the cream layer of milk. This decrease need not be a serious one if the pasteurization is properly carried out and the milk is properly held after pasteurization.

16. Homogenized milk does not give a definite cream layer.

17. Wide variations in the effect of the various factors on the creaming ability of milk are observed and are undoubtedly due, in part, at least, to differences in the milk used.

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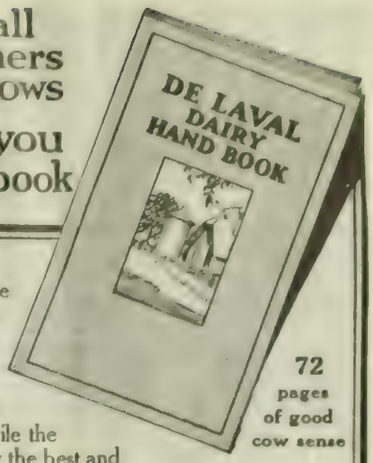

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"Year-Round Feeding of Dairy Cows"—by an authority whose advice is well worth heeding. The importance of proper feeding deserves more attention from every cow owner.

"How to Judge a Dairy Cow."— shows by illustrations what points to look for in a dairy producer—explains the essential qualifications of a good dairy cow.

"Building Up a Dairy Herd"— a practical breeder gives some sound advice on this important subject.

"The Farm that Won't Wear Out" —shows that the farm where cows are kept, and the fertility returned to the soil, improves instead of deteriorates.

"The Care of Cream on the Farm" —quality is as important as quantity. It costs little and brings big returns.

"Silos and Silage"— one of the best chapters in the book. Full of silage facts that every farmer ought to know.

Then there are splendid articles on "Ventilation of Dairy Barns," "Breeds of Dairy Cattle," "Legumes for the Dairy," "Care of Freshening Cows," "How to Test Cows," etc. Numerous dairy rations, suitable for various sections of the Dominion, are given, and various milk and dairy tables as well as tables of weights and measures, silo capacities, etc. that every farmer has occasion, at some time or other, to refer to.

Thousands of dollars have been spent in the preparation of this book, and if you keep cows you certainly ought to write for a copy and read it from cover to cover. The book is absolutely free. Just fill out the coupon or send the information requested on a post card, mentioning this paper.

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THE TAMWORTHS AS DAIRY HOGS

A great deal has been said about the different breeds of hogs, and many breeds have started from the black and white hogs, yet it is not the history of the past that concerns us most, it is the present inquiry and the future prospects.

Hogs, like kings and queens and tribes, seem to have their day. Where they were once famous and their product sought for, other breeds have come that have more than supplanted their predecessors. Where any one breed has been tolerated to excess their meat has become of secondary quality. As a rule, among breeders, it is a hog, plump, with fancy points and appearance, not the sweetest, purest and most healthful meat formers such as the stomach of the consumer most desires that meets with approval. To meet the required demand now, you want a hog with length and depth, large and full in the ham. Their disposition and mode of life seem to give them the right to grow and form muscle rather than fat. They possess great nerve and action, with good feeding qualities, and make them good rustlers for themselves, and with strong constitution and hardiness they build a firm and solid carcass that is less subject to disease than the fat hog. Their physical development also fits them as large reproducers with a rich flow of milk; as can be seen by the thrift of their young, and where this breed of hogs has prevailed, the meats have raised in quality and price.

In this part of Canada it is less than 20 years since Tamworths were first introduced and people that only a few years ago looked on them only to criticize, are today their most ardent admirers. Also notice the improvement they have made on the Canadian meats, they go to the most critical and fastidious class of customers, the great middle class and the aristocratic Englishmen. The quality, finish, flavor and appearance of our product must be just right or they would spend their money elsewhere.

We find that nothing removes prejudice so quick as the mighty dollar, and this is true of the Tamworths. We also find the fashion of taste changes as well as the fashion of ware, and it is a matter of importance that our supplies should be what the demand most calls for.

We often hear it said "that if the packers will not give more for dairy fed hogs or for Tamworths than for other breeds of swine, there is nothing gained by raising them."

And after experimenting with them in many ways for sixteen years, I am fully convinced that on the farm, the Tamworth is a most profitable hog. He will transform cheap farm products into high-priced bacon at a great profit. He will grow and do well on clover, grass, stock beets, or peas, all of which are the cheap farm products, and he will also do well when fed on high-priced feed like corn, ship stuff and oats.

Tamworth swine certainly have some splendid qualities. They have stamina and vigor that would be the envy of all the weak races of light-limbed and gouty stock. They have a magnificent frame, viewed from the standpoint of ruggedness. They are seldom troubled with rheumatism, or gout, or paralysis of the limbs or breaking down in the legs. They have limbs that can carry them to the pastures, through the same and home again without labored effort. They are proverbial for large litters and no less famous are they for the way in which they rear them. The young litters have strength and action that enable them to fight an easy battle for existence from the first if they are given half a chance. As many pigs will be reared by one-third less the number of Tamworth sows than from sows of several other breeds, and they will be reared in better form.

Tamworths are also useful crossing on other hogs, and the longer the period that such sows and their ancestors have been tied too closely to a corn diet, the greater the renovation which such crosses will work. The progeny from these crosses will inherit strength and vigor and prolificacy that will agreeably surprise the men who are so discerning as to make such crosses.

But one of the best qualities of Tamworths is the ability they have to produce the finest quality of pork. Because of the intermingling of the fat and lean on the side, they make the best of bacon. Their shoulders and hams are not so overlaid with fat that has to be thrown away as with many breeds. Farmers who once grow Tamworths to provide their own pork will want to grow them again.

True, they will not mature quite so early as some breeds, and possibly they may require more food to feed them. But they they do, see what there is to offset the same. Against this one item there would be the items of stamina, prolificacy, value in crossing, and the magnificent quality of the pork which they produce. Nor has it yet been proved conclusively that Tamworths are harder to fed than other races of pigs, though to some little extent this may be so. Some peculiarities of form would seem to give countenance to the idea, but as yet on this matter judgment should be held in suspense.—J. A. MacDonald in Kimball's Dairy Farmer.

RINGING PIGS

We are not of those who recommend that all pigs should be rung from the time they are weaned; indeed, there seems no reason why the ringing should not be deferred until the necessity for it arises. Many pig-keepers ring stores and breeding sows as a measure of prevention; but there is generally some warning or indication of a disposition to root, and then the restraint should be promptly applied. It is not desirable, however, to ring sows that are heavy in pig, as rough handling and resistance to the operation may prove injurious and occasion abortion. Ringing has a taming effect, and a vicious old boar is rendered more amenable by it. As regards the

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alleged cruelty of the practise there are circumstances under which ringing is a necessity, having regard to the well-being of the animal, or rendering it safe or more useful in the service of man. Further, the operation, if skilfully performed, and with proper tools, is not very protracted, and probably not particularly painful. In dealing with pigs, the pain actually caused must not be measured by the resistance offered or the protests uttered. These are always loud, and a pig will make as much noise about taking a dose of castor oil as having his nose slit; but there is cruelty where there is neglect to attend to any soreness caused. When pigs have been rung they should be watched, and if the snouts get sore the rings should be taken out. Festered noses, about which pigmen often trouble very little, are not uncommon, and so generally arise either through the rings being clumsily inserted or put in too deep, or through an accumulation of foodstuff around them. If inserted too far forward, that is, too close to the rim of the snout, it may be torn out; or if placed too far back, that is, into the flesh and too near the nasal bone, it will be too painful and probably suppuration, and perhaps gangrene, will result. When pigs are fed on boiled or steamed potatoes, or any sticky food, it will often accumulate round the rings, form a hard lump, and cause soreness. A cure for this is to turn a few peas into a trough of water, when the pig is searching for, and securing the peas, the accumulation gets soaked and rubbed off.

FREE VETERINARY ADVICE

Posterior Paralysis

F. H. S.—Many of a litter of pigs two and a half months old are losing the use of their hind quarters; in other respects they are apparently all right, in good flesh and anxious for food. They have been fed upon corn on the cob and skimmed milk.

This condition is usually brought about by a too liberal diet of corn, as in this case. Take away all rich grain feed, giving nothing but bran, slop, milk, etc., put them in clean, well-aired quarters with plenty of room to move about. Give each once every two or three days a tablespoonful of epsom salts, or about that amount; more if necessary to keep the bowels loose. Use great care in getting them back on a rich ration.

Rheumatism

Subscriber has a lot of shotes weighing from 50 to 100 pounds that are very lame and sore, especially in the legs; they hate to move and squeal with pain when touched.

The symptoms would indicate acute rheumatism, and I would advise the following treatment: Mix with feed an ounce or two of epsom salts for each pig once a day until bowels are loose, then give each a half dram of salicylate of soda three times a day. Feed foods that will keep bowels free, and house in warm, dry quarters. Any tendency toward constipation should be combatted with a dose of salts.

L. M. N. S. has a 4-months-old pig that presents symptoms identical with the shotes above. The medical and other treatment will be just the same as given in the case mentioned.

COOKING ROOTS FOR PIGS

Whether it is wise to cook roots for pigs depends to some extent on the facilities which exist for cooking, and still more on the age of the pigs to be fed. It is never advisable to give young pigs a lot of cold food in winter. Swedes are generally fed in the winter season; they are watery, cold, and in severe weather often frozen, and it is not good to make the pigs warm up this cold water to the temperature of the stomach, since it impairs the digestive functions. This is especially the case with young pigs. In the ordinary way, especially now that both coal and labour are dear, cooking for pigs is not a profitable business, but where the circumstances are exceptional, as where the are a lot of pigs to be catered for, and a proper cooking plant or waste steam is available, it probably does pay to provide warm food, particularly when the pigs are young and the weather is cold and wet. Old sows can at all times deal fairly well with raw roots, but little pigs in winter ought not to be fed with them. An alternative plan to cooking is to pulp the swedes finely and mix them with the meal at least twenty-four hours before they are given, allowing the heap to stand in the warmest place available. When used in this way they are as easily digested and as nourishing as when cooked.—Veteran.

Feed your hogs at regular intervals. The pig's stomach is a good alarm clock to go by.

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At that instant when the moose or deer appears the knowledge that a true aim is backed up by true ammuninion helps mightily.
With Dominion .303 British Soft Point—or any of the other big "D" Cartridges—the sportsman is sure of ammunition with a real "hit and stop".
No matter what big game you seek there is a Dominion Cartridge to stand by your aim and give you confidence.
Send for our attractive hanger "A Chip of the Old Block".
Dominion Cartridge Co. Limited,
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19

COULD NOT SLEEP

Nerves Were So Bad.

To the thousands of people who are tossing on sleepless beds night after night, and to whose eyes sleep will not come, Milburn's Heart and Nerve Pills offer the blessing of sound, refreshing slumber, because they restore the equilibrium of the deranged nerve centres, thus restoring strength and vitality to the whole system.

Mr. Arthur McCutcheon, Mt. Pisgah, N.B., writes: "I have been much troubled with my nerves, and could not sleep for hours after I would go to bed. I would toss and turn from one side to the other before I could go to sleep. I would then wake up in the night, and lie awake a long time before I would get to sleep again. I thought I would try Milburn's Heart and Nerve Pills, as they were recommended so highly. I now get to sleep without any trouble; my nerves seem quieted, and when I lie down I go to sleep quickly. Anyone who is bothered with their nerves should keep a box on hand."

Milburn's Heart and Nerve Pills are 50 cents per box, 3 boxes for $1.25; at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

THE HORSE

POLL EVIL IS A FISTULOUS SORE

It Is Caused by an Accident or Rough Treatment, and Is a Dangerous Malady in Horses

"I have a horse that has got a running sore behind the ears."—Subscriber.

This is a fistulous sore affecting the bones of the neck near the top of the head or poll. It is caused by striking the top of the head against a low ceiling or doorway. Suppuration sets in; the pus breaks out on the top, like any other abscess, but burrows down into the bones at the same time, differing in this respect from an ordinary abscess, so that, within a few days after bursting, it has burrowed down so as to reach the bone. If neglected the case becomes serious and the horse will be rendered useless. As in the treatment of all fistulous sores the cavity holding the pus must be opened at the lower end so that the pus may run out. Inject carbolic lotion twice a day, viz., 1 part carbolic acid to 20 parts water. Linseed poultice applied hot and soft till the holes are filled up and healthy looking; then apply three times a day sulphate of zinc 6 drachms, sugar of lead 1 ounce, water 1 pint. Mix and shake. If the symptoms of drooping ears appear, which shows the second and dangerous stage, you will have to get skilled aid. To be successful, you must act quickly and constantly, as it is always a very difficult case to cure.

HORSE BREEDING IN HUNGARY

Hungary, into the fertile plains of which it appears likely that the Russian troops will soon force an entry, is celebrated for its breed of horses. One of the best known breeding establishments is the State stud farm at Kisber, conducted by the Government, where horses are bred for home requirements and for export.

The State studs contribute amongst them to a really gigantic horse-breeding industry, which is one of the greatest resources of agriculture in the country, and the importance of which may be judged from the fact that horses to the value of £1,166,000 sterling, or thereby, are exported every year.

GIVE HORSES A CHANCE WHEN THEY ARE YOUNG

Give the colts a chance! No colt can develop into a large, useful horse if he is stunted in his early growth.

The result of good care and feeding is forcefully shown by the condition of the young work horses of the animal husbandry department of the Kansas State Agricultural college. These horses were purchased three years ago as weanlings. They were given care and proper feed their first winter and were in a good healthy growing condition when turned out to pasture in the spring.

When three years old these colts were worth $250 to $300 each. Colts of the same age and from the same mares, but kept on the farm and given the usual farm treatment, were worth only $125 to $140 each. Thus a difference in value of $125 to $160 was due to no other reason than the care given to the horses as colts.

"The horse is made the first eighteen months of his life," says Dr. C. W. McCampbell, assistant professor of animal husbandry in the Kansas State Agricultural College. "If he is stunted he never reaches his maximum development.

"Too often colts are turned out to rustle for themselves the first winter and all such colts can do is to keep alive. Their growth is stunted and they make a small ordinary type of horse."

SUNSTROKE IN HORSES

Sunstroke is caused by the direct rays of the sun falling upon the skull. A horse so affected may die suddenly as though stricken with apoplexy or he may have a gradual paralysis of respiration. The symptoms which usually present themselves are restlessness, pawing spasms and a marked redness of the mucous membranes lining the cavities of the head. The temperature in sunstroke may not rise above normal during the course of the whole disease.

Another condition very similar to sunstroke is that known as heat stroke or heat exhaustion. This is brought about by over-exertion and insufficient heat elimination. The direct rays of the sun are not responsible for this affection, which very often occurs to an animal on a cloudy, sultry day. Some of the most prominent symptoms of heat stroke are weariness, profuse sweating, difficult breathing, an extremely high temperature, and a rapid pulse, which gradually grows weaker and upon the approach of death muscular tremors will be noted. The treatment for sunstroke and heatstroke are the same. Remove the animal to a cool, quiet, well ventilated place and permit a stream of cold water to flow over the horse, and if possible apply ice packs to the head.—North Dakota Experiment Station.

CONTRACTED FEET

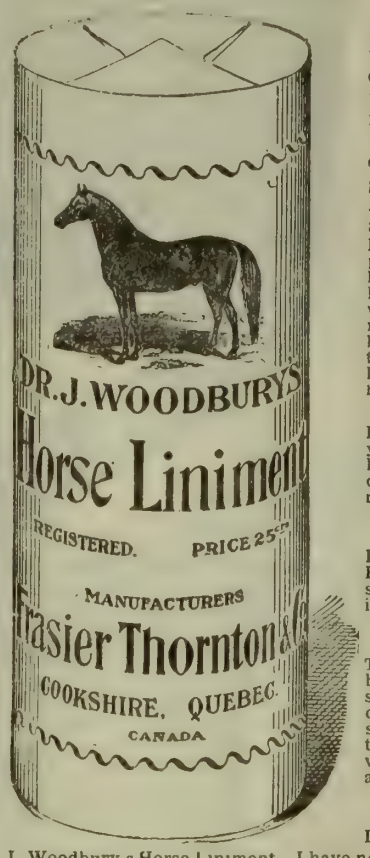
"I have a horse with a contracted hoof. What is the best thing to do for same?—I. I. B., Wiste, Alta.

If possible work this horse at home on the land and keep the shoes off him. This wil soften up his feet and get them to grow. Such hoofs are usually dry and hot and a blister about the hoof head will hasten growth. One of the best things for horses with contracted or tender feet is to get some blue clay—note this is blue clay—if possible. Wet this and stand the horse in it for two or three hours every day; in fact an arrangement may be placed in the front part of the stall where the horse stands so that his feet can be wet all the time he is standing in. Many a horse has been changed from a cripple by this treatment. White clay would be valuable if blue clay cannot be found, or cow manure placed in an old sack horse's hoof is also good. If shod, a shoe with a wide web should be used, pressing against the wall only, and the heels and frog should not be pared down.

Give the horse a chance; he's only half a horse with a sore shoulder. Give him a decent collar and fit it properly or turn him out to good pasture.

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
Newton Lee, Owner "All Right" 5817.

Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada.

INFLAMED, BOWED TENDONS

are quickly cooled, soothed and strengthened with ABSORBINE. It is powerfully penetrating and efficient, but does not blister or cause any inconvenience, and horse can be used.

ABSORBINE

TRADE MARK REG. U. S. PAT. OFF.

is used by successful trainers, in developing fast, high-class race horses, getting them to the races fit and ready, and keeping them sound and strong throughout the season. They require a dependable, efficient liniment—one that does it work well, in a mild, soothing manner, and which, when used as a leg brace or wash, will stop inflammation and keep out the soreness from the strained, fatigued muscles, so that there will be no stiffness or "tying up" after a hard work-out or race.

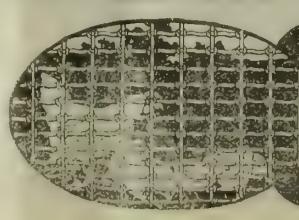
ABSORBINE, used full strength when needed, and diluted for a wash or brace, helps the horse stay strong and win a race that otherwise might have been lost.

ABSORBINE reduces bog spavin, thoroughpins, wind puffs, shoe boils and other similar swellings and soft bunches; allays pain and inflammation; stops lameness quickly.

SEND FOR FREE HORSE BOOK G.

ABSORBINE, $2.00 a Bottle at Dealers or Postpaid.

W. F. YOUNG, P. D. F., 124 Lymans Bldg., Montreal, Canada



PEERLESS POULTRY FENCE

A Real Fence—Not Netting

Strongly made and closely spaced—making it a complete barrier against large animals as well as small poultry. Top and bottom wires No. 9—intermediates No. 12 wire—made by the Open Hearth process which time and other tests have proven to be the best. Send for catalog. Ask about our farm and ornamental fencing. Agents nearly everywhere. Agents wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Company, Ltd.,
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THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
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Lumbago
Diphtheria
Sore Lungs
Rheumatism and
all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

MINARD'S
"KING OF PAIN"
LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

KEEP THEM WORKING
A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get
KENDALL'S
SPAVIN CURE
at any druggists at $1 a bottle, 6 for $5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. 115
Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

The hen provides for her brood, scratches for her living, works, and very early teaches the little chicks to do likewise. Men may learn a lesson from the hen.

POULTRY.

TO KNOW ROUP

One would judge that every poultry keeper would know roup at first sight or sound, and yet many who have kept poultry for years do not know it, if the poultry editor must judge aright from the numerous queries he gets. Many are the failures in the poultry business because of this disease that shows up in its worst form usually during spring or fall months.

If it comes in the spring it comes at the very worst time, for this is the time you want strong eggs and plenty of them. Roup may first show itself to you by the unaccounted-for sudden deaths of some of the chickens. Yet, had you noticed, the premonitory symptoms could have been seen in others of the flock. This is one way it has sometimes of appearing in the fall. But in the spring, if you keep close watch, you will notice the first symptoms—difficult breathing, open mouth, wheezing with or without exertion, may be a rattling in some cases. These signs might mean simple influenza, but it is well to get the afflicted away from the well right now, for more often than not, it is the genuine roup, which next will show by watery discharge from nostrils and throat, and soon, in many cases, swollen and bulged eyes, ulcers in the mouth, depressed condition, ruffled feathers, sudden loss in laying. Not all cases may give forth that putrid smell from mouth and throat, but should you notice this in a few cases, or even one, you have genuine roup to contend with, and must act accordingly.

INCREASING THE EGG YIELD

Those who are anxious to specialize in the production of eggs should retain chickens for breeding purposes from the best individual layers. This is a comparatively simple matter, thanks to the introduction of trapnests. By continuing the selection of chickens from good laying strains for several seasons, provided always that care is exercised in choosing the males from a good egg-producing strain, pullets will be eventually bred than can be relied upon to produce a fairly large quota of eggs in winter. How far selection for the heavy layer can go without doing bodily harm to the hend has not yet been experimentally tried in this country; but it seems reasonable to suppose that the abnormal layer must lose in constitution, and thus fail to breed chickens with sufficient stamina to continue the improvement commenced by its progenitors. We would say that if the poultry-keeper can succeed in getting 150 eggs per annum per hen, and by careful selection and judicious management perpetuate this quality, he can do so without impairing the constitution, and so secure an excellent remuneration from his enterprise. The parent stock transmit both good and bad qualities to their progeny, and it is generally found that hens have the greater influence in this direction.—Expert.

There is nothing the chickens enjoy better than a thick hedge near their poultry house in winter, and one any place handy in summer. A close hedge of any kind is a protection to the poultry house in winter and is not difficult to provide, and is a cool spot in and about which the fowls love to dust and hide on the hot summer days. Notice them, too, on the cold days hunt the sunny or wind protected side of a fence closely boarded. Some people never think of providing for the comfort of chickens by these cheap means.

Lay for the hens that do not lay, and make it pleasant for those that do.

How often do you fix the fire?

IT is necessary work which we have tried to lessen for you in making the Kootenay. And this is how:

The "Kootenay" is fitted with duplex (double) grates which clear out the ashes with a few turns of the shaker. Ashes do not cling to the smooth sides of the firebox; a glance shows the almost imperishable strength and solidarity of its thick semi-steel linings which are of the highest heat-resisting power, never getting out of order.

In taking out the ashes there is no need of spilling them over the floor. The ash-pan is made large enough to hold more than one day's ashes.

McClary's Kootenay Range

Careful thought now, before you buy your range, will save your time, your money and your temper in years to come. Our new booklet explains clearly the things that you should know about your new range. We have these booklets for free distribution, and you may secure one by sending the coupon to the factory.

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TEAR OFF THIS COUPON
Name .....
Address .....
Kindly send me a copy of Your booklet about the Kootenay Range.

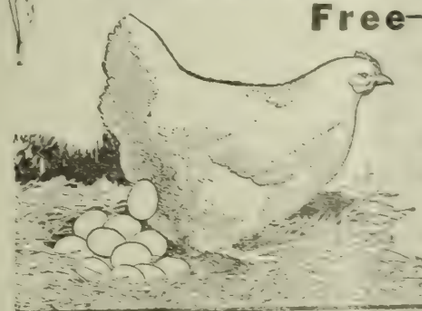
Are your hens winter layers?

The time to prepare for winter eggs is during October, November and December. Have your hens get over the moulting [illegible] months healthy and vigorous. This you can do by feeding Royal Purple Poultry Specific, put up in four sizes, viz.: 25c, 50c, $1.50 and $5.00.

Use Royal Purple Roup Cure in the drinking water to prevent and cure diseases—25c tins only.

Royal Purple Lice Killer—the hen's best friend and the worst enemy of lice. It smothers them and will permit the hen to sit comfortably on the nest to lay her eggs. It is made from the flowers of an Oriental plant which we grind to the very finest powder. Guaranteed. 25c. and 50c. a tin.

Thoroughly disinfect your hen houses with Royal Purple Disinfectant—put up in three sizes, 25c, 50c and $1.00. For sale by our dealer in your town.



Free— We will send absolutely free one of our [illegible] illustrated booklets on the common diseases of stock and poultry. It tells how to prevent and cure them. Also about Royal Purple Calf Meal [illegible] Write for your copy to-day. Dept. H

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FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

MORE THAN A HOME

By Keith Kenyon

Perry's usual Friday evening call on Miss Lamont had endured for five minutes. "You do not look like yourself to-night," he pronounced meditatively.

A faint flush warmed her cheeks. Her emotions were always thus as through a sweet transparency.

"It is your hair," he said again. "You haven't a crimp or curl. And that dark gown, plain around the neck—you look five years older. I don't like it either."

She spoke her answer firmly, although her redness deepened. "I think Mr. Halden likes it," she said.

"Halden?" he echoed. "Lord! It is for Halden. It disturbs him to see you look so young—is that it? He recalls the days when he was your age—fifty years ago, say——" The look in her eyes stopped him. They always chaffed, but there was something different in this—something sharper.

"I will not quarrel with you," she said, "for we are too old friends." That was true. They were the best of friends. He had lent his influence to secure her the business position which she held with a credit born of efficiency, and she had in return shown him many tactful, womanly little favors.

"What is it about Halden, then, Julia?" he asked. "What's up?"

"I think," she answered, "I ought to dress to please Mr. Halden if I can. He would not like—his wife to look so much younger than himself.

"His—wife "

"He has asked me to marry him, and I have made up my mind that I will."

"Do you care for him?" They had scoffed humorously at love; they had even proved to their own satisfaction that there was in reality no such thing.

"I respect him."

"You respect the memory of George Washington, I hope! Heavens! Is that all you have to say, Julia?"

"No," she answered him, "it is not. I am not afraid to tell you, my friend—no, nor ashamed. I am going to Marry Halden because I—I want a home. I don't want this always." The room was agreeable, but it was conpicuously a boardinghouse parlor.

He murmured, with frowning brows: "No. Well?"

"Mrs. Denton—you met her, you know—has sent for me to come to Boston and take a position her husband has waiting for me. It is a better one, and I should have gone, but—Mr. Halden," she hesitated, "had spoken——"

"You mentioned that," he remarked tartly.

"I could go to Boston," she said, "or to London, or Paris, but that would not help me. I should be no nearer home. I am tired; that is it. I want somebody that I shall have the right to depend on and trust. What it would be to have somebody always to see to checking my trunk and make bargains with hackmen and—and always to pay my street car fare—what it would be!"

He felt baffled. He suffered from an unreasonable but burning spleen. "But," he cried with energy, "Halden! If there must be a victim, why of all men Halden?"

"Because he wants to be the victim," she returned.

"Probably he thinks he does. Most men have spasms of mental aberration, and this is Halden's. Julia, you would never take advantage of it? Julia, you couldn't!" He got back his old way with her—which lay between banter and mild bullying—and with it his hold on himself. He warmed to his subject.

"Married!" he said. "Halden married! It's inconceivable. It is appalling."

"Many thanks."

"Oh, you might not make him much more miserable than any other woman would. But, Julia, do you know how Halden puts in his time?"

"He spends some of it——"

"Here, yes; that is a serious symptom of his attack of lunacy. But what has he been doing for the last—I won't undertake to say how many years? Why, hanging around the club and absorbing the news and refreshing liquids; going to an occasional stag dinner, and getting new cures for his gout—or neuralgia, is it? And taking a hand at poker now and then with the boys, and smoking on roof gardens and talking stocks and politics. That," Perry said, "is what Halden does, and he's done it till it is a habit with him, like eating and breathing. It would be a smaller undertaking to throw a steam engine off its track than to shunt Halden off his. And what would it result for Halden? Misery!"

"He seems willing to risk it," she observed.

"Willing—willing! I tell you it is his loss of mental equilibrium. In such a case, there is degeneration of the gray cells in the forepart of the cerebrum, and strange hallucinations are the outcome. Any doctor could make it clear to you. And you would take advantage of it? I cannot credit it."

She threw back her head and laughed.

"Don't laugh, I mean it," he said sharply, and for a space his eyes looked into hers. The long look burned its way through the something that had interposed ever between them—the flimsy barrier which their ignorance and their heedlessness had reared.

"Julia——," he faltered. The door bell rang.

"It is Mr. Halden," she said, with trembling lips. "Must you go?"

Nine days later, sitting in his office in the heavy gloom and the dullnes which for the past week had held, him, Perry received a letter. It was from Julia Larmont and it was brief.

"I am going to Boston this afternoon. Good-bye."

"Good-bye!" he muttered, fiercely scowling. But all his apathy had fled on the instant. She was going to Boston. What did that mean? He sprang to his feet. She was going that afternoon. "She'll take the boat," he hazarded. It was already past five. He seized his hat and called a taxi which drove him to West Warren street swiftly. She was there.

"I told you good-bye in my note," she remarked.

He saw with joy that her hair was wavy. "I have not come to say good-bye. Where is Halden?" he demanded.

"He is cruising around the lake with Mr. Crane," she answered, "and fishing. He had—an attack of his neuralgia, and I told him it would do him good to go. I—I thought over what you said, and I saw," she affirmed, not in humility, but in a rigor of pride, "that it is true. It would have been a mistake; I—from the first feared it. And—I almost think he agreed with me, in his heart. So, after all, I am not going to have a home. I am going to Boston." She smiled bravely.

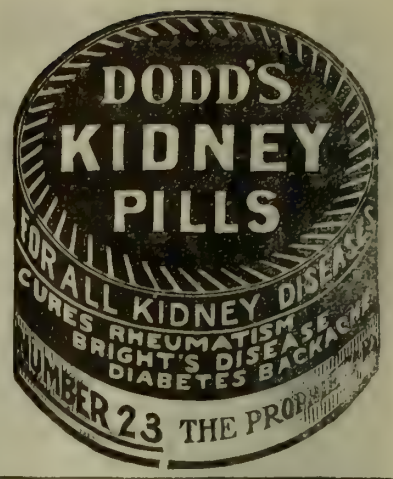
"Those are misstatements," he answered, "both."

"What do you mean?"

"You will have a home, and you will not go to Boston," he returned though he spoke to the back of her head, abrutly averted. "As I reckon

A WOMAN'S MESSAGE TO WOMEN.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations bladder weakness, constipation, catarrhal conditions, pain in the sides regularly or irregularly, bloating or unnatural enlargements, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpation, hot flashes, dark rings under the eyes, or a loss of interest in life, I invite you to write and ask for my simple method of home treatment, with ten days' trial entirely free and postpaid, also references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by this method. Write today. Address: Mrs. M. Summers Box 309, Windsor, Ont.



Health for Sick Women

For Forty Years Lydia E. Pinkham's Vegetable Compound Has Been Woman's Most Reliable Medicine —Here is More Proof.

To women who are suffering from some form of woman's special ills, and have a constant fear of breaking down, the three following letters ought to bring hope:—

North Crandon, Wis.—"When I was 16 years old I got married and at 18 years I gave birth to twins and it left me with very poor health. I could not walk across the floor without having to sit down to rest and it was hard for me to keep about and do my work. I went to a doctor and he told me I had a displacement and ulcers, and would have to have an operation. This frightened me so much that I did not know what to do. Having heard of Lydia E. Pinkham's Vegetable Compound I thought I would give it a trial and it made me as well as ever. I cannot say enough in favor of the Pinkham remedies."—Mrs. Mayme Asbach, North Crandon, Wis.

Testimony from Oklahoma.

Lawton, Okla.—"When I began to take Lydia E. Pinkham's Vegetable Compound I seemed to be good for nothing. I tired easily and had headaches much of the time and was irregular. I took it again before my little child was born and it did me a wonderful amount of good at that time. I never fail to recommend Lydia E. Pinkham's Vegetable Compound to ailing women because it has done so much for me."—Mrs. A. L. McCasland, 509 Have St., Lawton, Okla.

From a Grateful Massachusetts Woman.

Roxbury, Mass.—"I was suffering from inflammation and was examined by a physician who found that my trouble was caused by a displacement. My symptoms were bearing down pains, backache, and sluggish liver. I tried several kinds of medicine; then I was asked to try Lydia E. Pinkham's Vegetable Compound. It has cured me and I am pleased to be in my usual good health by using it and highly recommend it."—Mrs. B. M. Osgood, 1 Haynes Park, Roxbury, Mass.

If you want special advice write to Lydia E. Pinkham Medicine Co. (confidential) Lynn, Mass. Your letter will be opened, read and answered by a woman and held in strict confidence.

DIARRHOEA

Was Caused By Change of Diet, Etc.

Diarrhoea arises from many causes such as, change of diet, change of water, change of climate, catching cold, the eating of unripe fruits, or anything that will cause or induce an excess of bile.

On the first sign of any looseness of the bowels it should not be neglected, but should be looked after immediately, for if not diarrhoea, dysentery or some other serious bowel complaint may ensue.

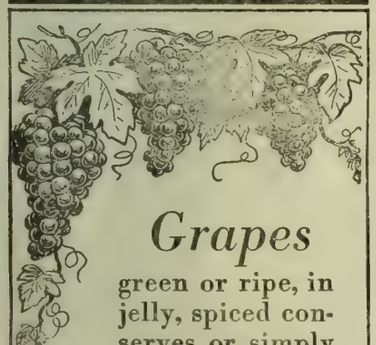
Mr. Geo. Smith, Victoria, B.C., writes: "It is five years ago since I first tried Dr. Fowler's Extract of Wild Strawberry. I was then on a timber survey, and suffered greatly from diarrhoea, caused by change of diet, etc. A friend in the party gave me a few doses which gave me great relief. Since then I have been in survey work, and would as soon think of starting out on a trip without my compass and blankets as without my supply of Dr. Fowler's Extract of Wild Strawberry, which I consider the woodsman's best friend."

Dr. Fowler's Extract of Wild Strawberry has been on the market for the past seventy years, and is universally known as a positive cure for all complaints arising from any looseness of the bowels.

When you ask for "Dr. Fowler's" be sure you receive what you ask for as there are many rank imitations of this sterling remedy placed on the market to try and fool the unsuspecting public.

The genuine is manufactured by The T. Milburn, Co., Limited, Toronto, Ont.

Price, 35 cents.



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it, we have been fools for four years, and that is long enough, Julia."

She faced him with valiant resistance. "I won't consider it," she declared. "It is mental aberration."

"If you say so, but it is chronic. It is hopeless."

"It should be cruel to take advantage of it—inhuman."

"No, no; you are inhuman to confuse me with Halden, that is all. What are we dawdling here for? Come!"

"I can't!" she gasped, "my trunk is on the boat."

"No matter. It is not your trunk," said Perry, with rude and joyous laughter, "that I am going to marry."

Her cheeks were tenderly flushed and her lashes moist. "We shall always quarrel," she murmured faintly.

"And I," he answered, "shall always come out ahead in the second round." He defied convention and the cold-hearted onlookers, and put his arm around her.

INFANTILE PARALYSIS

(Issued by the Department of the Public Health, Nova Scotia.)

Acute anterior poliomyelitis, commonly called infantile paralysis because it usually affects young children, is at present epidemic in exceptionally virulent form in the city of New York, and has caused many deaths. Inasmuch as there is a possibility that the epidemic may spread, it is thought wise to issue this bulletin.

The disease is not unknown in Nova Scotia, an occasional case being reported from widely separated localities. With us, it is more common in the rural districts that in the cities and towns.

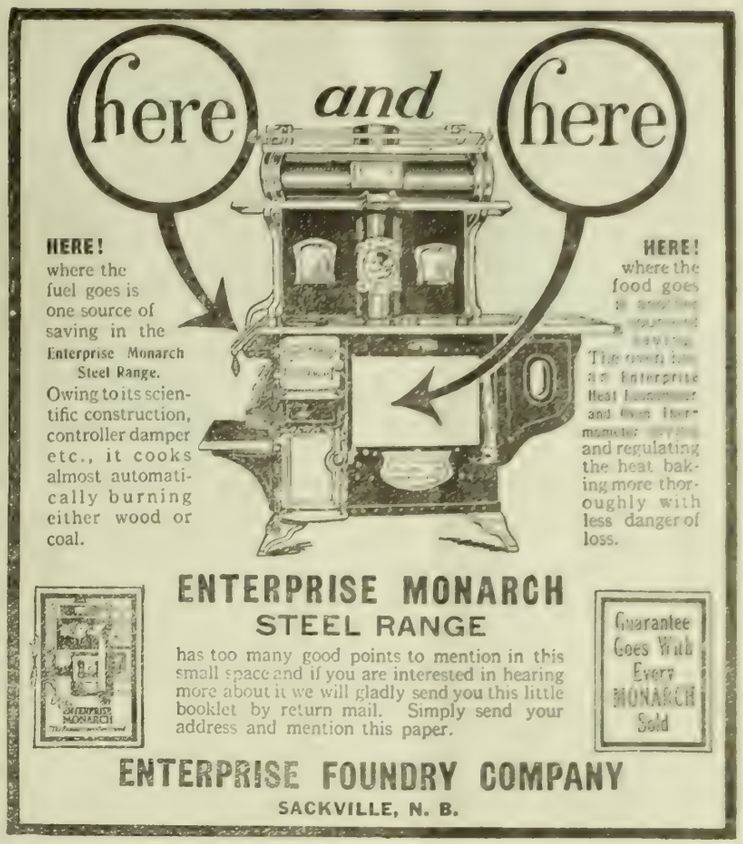
It is due to one of the tiniest of micro-organisms, an organism so small that it can be detected only when massed in groups in the field of the microscope. The germ losses its virulence very quickly when exposed to the air, and this is doubtless one of the reasons why the disease is not more prevalent than it is. Some "strains,, of the organinsm appear to be more active in causing the disease than others. It is thought that the "strain" responsible for the present epidemic in New York may have been brought by immigrants from southern Europe.

We are in ignorance of many of the factors concerned in determining an attack of the disease. It is infectious, and yet it is unusual for more than one child in a family to be attacked even though several may be undoubtedly exposed to infection. Occasionally, however, several members of a family may be infected, and on rare occasions adults suffer from the disease. Often thee strongest and apparently the healthiest member of a family is the one to fall ill, so that the best of health does not insure safety from attack.

The first symptoms are, as a rule indefinite and may suggest only some disorder of digestion. The characteristic paralysis usually does not appear for three or four days. During the time of epidemic, therefore, the slightest indisposition on the part of a child should lead to a phycician being summoned.

Many cases are "abortive" and do not go far enough to cause any paralysis Such cases may, however, transmit the infection to others.

The infectious element is given off especially in the discharges from the nose, throat and mouth, but possibly also in discharges from bladder and bowels. It is thought that infection is received principally through the mouth. All discharges from a patient should, therefore, be disenfected immediately upon issuance from the body and any article soiled by such discharges should be disinfected at once. It is of special importance that the hands of those in attendance upon the patient be most carefully cleansed after rendering the patient any service. The dishes used by the patient should be separately washed, better sterilized, and reserved for his use alone.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It is generally thought that the infection is disseminated especially by "carriers"-people who, although not themselves ill, have been in contact with patients or their discharges and harbor the germs in their throats. Those who have had the disease, even in the abortive form, may also be carriers for some time after convalescence has set in.

It is difficult to identify carriers, but all who may have come into contact with patients suffering from the disease, or who may themselves have had it, should regard themselves as possible carriers and ask the advice of a physician as to how they may render themselves non-infective.

Every patient suffering from the disease should, of course, be strictly isolated, and every case of the disease should be immediately reported, as required by the public health act, to the appropriate Medical Health Officer If energetic measures are adopted immediately upon tthe appearance of a case, the community may be saved a disastrous epidemic.

THE BABY'S MOUTH

Be sure to keep the baby's mouth very clean. Cleanse it at least twice a day with boracic acid solution—one tespoonful boracic acid to a pint of boiled water—and bath the gums with cool water when the baby is fretful and the mouth is very warm.

As soon as the teeth come through, clean them each day with the tip of an orange stick wrapped in cotton or a piece of soft cloth. At this stage baby will show a desire to chew everything within his reach. Select rings and toys which you can boil. Celluloid and painted toys have no place among the playthings of a young child.

ECZEMA WAS CURED TWELVE YEARS AGO

Dr. Chase's Ointment Proved to be a Permanent Cure

The old idea of eczema being a disease of the blood has been pretty well exploded by the record of cures made by Dr. Chase's Ointment.

Some doctors still advise internal treatment, but the results are slow and uncertain, and too often a lamentable failure. With Dr. Chase's Ointment it is different. You apply the ointment to the sore parts. It cleanses the sores and soon sets up the healing process. In a few days you can see with your own eyes the wonderful change that is taking place and are encouraged to keep up the treatment until the cure is complete and the sores replaced by smooth, natural skin.

It is wise to look after your general health, keep the bowels regular and the blood rich, but you can depend on Dr. Chase's Ointment to cure the eczema if you will do your part and apply it regularly.

Mr. W. H. Roberts, Charlottetown, P. E. I., writes: "I can recommend Dr. Chase's Ointment to anyone suffering from itching skin disease. I had eczema on my leg and suffered terribly from the itching. I had a doctor treat me for four months without relief, and I was getting worse all the time. A second doctor gave some relief for a time, but made no cure. I tried several advertised treatments, but without relief until I used Dr. Chase's Ointment. This ointment cured me in a month. That was twelve years ago, and have never had a sign of the old trouble since.

"Since then we have always kept Dr. Chase's Ointment in the house, and find it invaluable for chafing, chilblains, insect stings and burns. I would not be without it if it cost $5 a box."

"This is to certify that I am personally acquainted with Mr. W. H. Roberts, and believe his statement regarding the use of Dr. Chase's Ointment to be true and correct."—(Signed) Alex. Horne, Justice of the Peace.

Dr. Chase's Ointment, 60 cents a box, all dealers, or Edmanson, Bates &Co., Limited, Toronto.

THE GREAT KITCHEN GARDEN.

Quick, continuous growth and a cool moist soil are the essentials of lettuce and other salad crop culture. However, lettuce is very easy to grow and is invariably a seed bed crop, coming to quick maturity and leaving the land ready for a succession crop.

Common sense and a little acttion will do more for the household's supply of lettuce than any expenditure of money. A good spot of ground and plenty of water and good seed are really all that are required. The grower, with slight effort, can keep the weeds out of his crop:

A good salad can be made from wilted or stale plants. Thus, the best salads are practically prohibited to people without their own garden. The plants should be freshly picked within half an hour before meal time.

Lettuce may be followed by cabbage, cauliflower, celery and various other later crops. Successive sowing can be made as often as once every ten days or two weeks. The ordinary spring variety grows quite well in summer.

Lettuces is commonly grown in rows from 8 to 12 inches apart and thinned later on to make the plants stand 6 to 12 inches apart in the rows.

ROOT CROPS.

Root crops are especially popular with the small gardener because no special skill is required to grow them. They are hardy and require a cool season and a deep soil and are sown in drills.

The principal root crops are the radish, beets, carrot, turnip, ruttabage parsnip, salsify and horse-radish.

The value of the root depends on its straightness and symmetry. Thus, it is desirable that the gardener spade deep and loosen the soil more than on the mere surface.

The small red spring raddish and the longer and later one are the two best adapted to the back-yard. They can be sown before frost is out of the ground. They can from the first planting be sown at intervals of from 7 to 10 days to supply the table through the summer. For the later planting select a cooler spot in the garden.

The beet can follow some of the lighter crops and if weeds are keept down well while the plant is young a good crop is assured, as this vegtable is one of the hardiest.

Far carrots be sure the land does not break over the seed. Carrots also must be consciously protected from weeds. Seeds of early raddish can be sown with them.

Turnips are hardy and seeds germinate quickly. The produce is large enough for table use within six to ten weeks after planting.

Parsnips take the full growing season. Salsify, which is used for cooking purposes only, does also. However, if the young plants of the latter are thinned to 4 or 5 inches apart a hardy crop that may be left in the ground during winter will result.

TOMATOES

Although the amateur gardener rarely pictures tomato growing without thinking of the plants he has seen in the corner grocery, there is no reason why he cannot grow his own from seed, if he is sure he wants tomatoes and plenty of them. These plants take up much space and require the full growing season. In the north they grow until killed by frost.

A few plants, if well cared for, will furnish a family with the necessary supply. For the man who is not going into tomato culture extensively it is advisable to purchase the few plants needed.

The tomato is essentially a hot-season crop and no chances should be taken on premature planting. It is grown in hills and needs a quick-acting fertilizer applied during early growth for the best results. Sometimes two or three transplantings are made to obtain continuous-growing plants. Early and steady picking must be practiced to save the crop from fruit rot.

The plants are usually started from four to eight weeks before they are transplanted to the field. If a good fertilizer has been well worked into the soil some weeks prior to transplanting the best results can be obtained. Experiments have shown that a light application of nitrate of soda when the plants are set, works wonders.

In training the vines the best way is to prune the plant to a single steem and tie them to a perpendicular cord which is secured top and bottom to horizontal strands streched between long stakes. If this is to be done plants may be set as close as 18 inches in the row. When frost threatens the largest green tomatoes may be picked and allowed to ripen in dry close places.

PEAS AND BEANS

No garden is complete without peas and string beans. The only difference in the two, botanically, is that peas are hardier and a cool season crop, while warmer weather is required by the more tender bean. Atmospheric nitrogen goes into the making of both, and if any amount is to be grown it is advisable to use a fertilizer containing this quality.

Garden peas are easy to grow They do best in spring rather than in the hotter months and also thrive in fall from late sown seeds. Even before freezing weather is past peas may be sown. They should be planted from 3 to 5 inches deep. The pea

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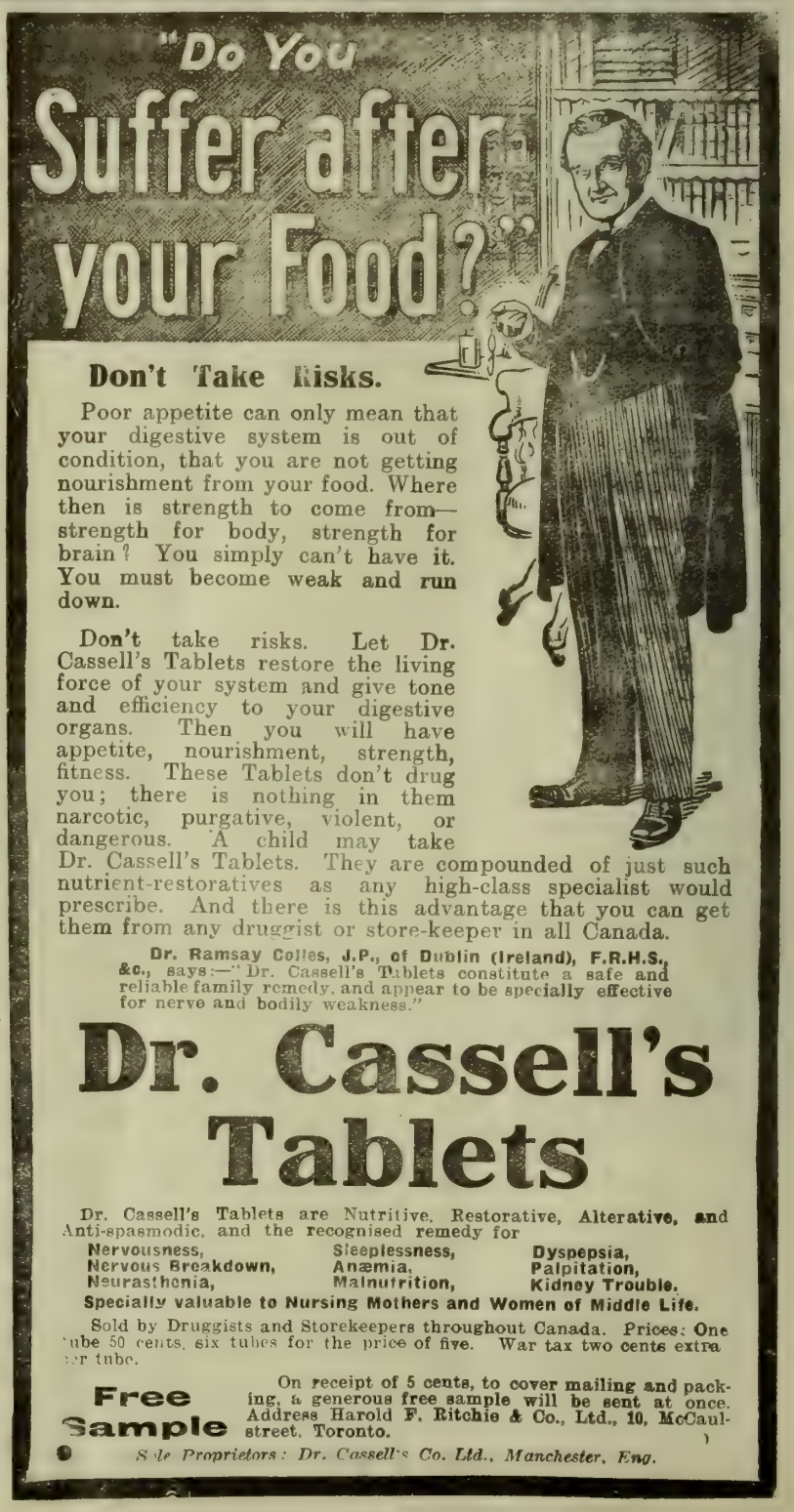
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is one thing that will thrive best in a soil that is not too rich. A strong soil tends to make plants run vines and delay the crop. Sewings may be made at intervals of 6 to 10 days throughout the growing season to obtain a continuous crop.

For the early crop the dwarf varities are ideal. In handling the taller and later kinds the grower will do well to practice pinching in the excessive growths. This assures a larger and quicker yield.

Two or three cultivations during the growing season are usually sufficient for peas. They can be sown from 6 to 8 inches apart in rows. The plants should be from 3 to 4 inches apart in the rows. If the dwarf varieties are grown, each plant will tend to support the other. But if the taller kinds are attempted, chicken wire between rows will prove excellent support.

The bush bean and the pole bean are the common varieities, although the former, requiring the less labor, is the more popular. As a garden crop, bush beans are used mostly as "string" beans, the pod being plucked when two-thirds grown and both pod and beans eaten.

Plant only when the weather has become settled. A late summer planting may follow the earlier one and provide beans until late in the year. The bush beans are sown in drills, rows being rarely less than 18 inches apart. The plants should stand from 5 to 10 inches apart in the row.

SWEET CORN

Corn is distinctly a "made in America" product. Columbus found it there when he arrived and there it has remained as far as popularity is concerned, for the rest of the world it practically is still unknown.

Sweet, or sugar corn is the only kind to be attempted by the backyard farmer. But no large garden is complete without a representation of it. Sweet corn is grown for its immature ears, which are eaten when the grains are yet soft.

The soil should be fertile and quick. The coarser manures left over after fertilization of ground for the smaller vegetables, will be useful for the corn patch. Small gardeners are advised to plant the home supply in drills, three feet apart, with the seed dropped from 10 to 12 inches apart in the rows.

Corn is essentially a surface feeder, that is, it takes its growth out of the very top layer of soil. Thus, care that the seeds are not buried too deep and that the surface soil is well pulverized should be the lookout of the gardener.

A common practice of market gardeners that may well be abopted by the man for the small plot is that of sowing early, intermediate and late varieties at once, ensuring a continuous yield. The same idea is also often carried out by sowing at intervals of two or three weeks.

When this is attempted the grower must gather the ears from the early varieties as soon as they are set, so the later kinds will not be robbed of the plant food.

Corn it must be remembered needs moisture and if the ground possesses a good supply and is well drained, frequent cultivations with the hoe will ensure a good crop.

A POINT IN HORSE JUDGING

Equilibrium means equally distributed weight or equipoise, but the average horseman does not have that in mind when he speaks of weight. He merely means "heft" as he sometimes calls it, and judges by the weight how a horse has developed and what he thinks will be his capacity for labor. The true student sees much more in the matter than that and so we shall say something about it for the farm boys of the Successful family that they may better understand the subject. One seldom, if ever, hears the weight of a draft horse, or light horse, quoteed in Great Britain or France, where horse have been so successfully produced.

To understand the significance of equilibrium in a horse it is necessary to know what "centre of gravity" and "line of gravitation" mean and where the former is located in the body. Without going into very elaboratte or scientific definition, let it be said that centre of gravity means the point where all the forces of gravity centre and where the forces destroy or annul one another so that the mass is at rest. The line of gravitation is that through which the force of gravity falls from the centre of gravity to the ground. If the centre of gravity of the horse is known, then a plumb line dropped from there to the ground follows the line of gravitation.
of gravity of the horse is located just behind the eighth rib, near to the elbow joint and on a line drawn from the point of the shoulder to about the middle of the thigh. The exact point is found by intersecting this line with one dropped perpendicularly to the ground at the eighth rib. That means that the centre of gravity is in the middle of the mass of the body just back of the elbow or at and above the end of the back of the sternum of brest bone. Theoretically the horse would balance on a point at the center of gravity and be at equilibrium or equipoise.

Next remember that the base of support of a horse is formed on four broken columns (bones and jointts) resting upon points which are the feet. These four feet when joined by an imaginary line form a rectangle or polygon and if that were permanent the horse always would be in equilibrium, but the moment he moves a foot the equilibrium changes or is affected. When a horse trots he advances one hind foot and one fore foot diagonally and so is balanced on two diagonal bipeds. When he paces he moves by lateral bipeds, or two feet on the same side of the body, the other two (lateral bipeds) being off the ground at that time. It may readily be seen that the horse may also be balanced or supported on only one foot at certain times, or on two hind ones when rearing, or two fore ones when landing from a jump, or may have no feet upon the ground for a moment when galloping. Equilibrium, therefore, will depend upon what the motion happens to be. It is down, because the centre of gravity is near the ground and the line of gravitation within the base of support. It is lessened when the horse rises and the taller he is and the closer the feet are together the less will be the equilibrium.

If a horse always were in a state of rest one might make exact statements about the subject of centre of gravity and line of gravitation, but remember that he is constantly moving. Each time the head is raised or lowered. or any change made in position of the body, equilibrium changes, is lessened or increased, wittingly or unwittingly, and may suddenly be thrown out of control so that the animal falls. The rule to remember is that for equilibrium the line of gravitation always should fall inside of the base of support. Whenever move quickly to avoid falling. Chances of the line of gravation forward within the base of support takes place when the running horse advances and elevates his head, and such a change necessitates fast movements of the legs to prevent falling. Such changes are not so dangerous as those outside of the base of support to the side, for when the latter occur it is more difficult for the legs to be moved to the side to support the body than when the legs have to be advanced for that purpose. Knowing this, one should be very careful to avoid side slips when riding or driving a horse. Never turn a galloping horse quickly, nor when galloping or trotting on a cement road turn the horse suddenly to enter another street or alley. Falls readily occur at such turns and bones may be fractured. The writer once had a fine saddle horse killed by just such a foolish turn made by the groom. The animal suffered a broken back and leg by the consequent fall.

Understanding the matters we have touched upon here the scientist alleges that "instability of equilibrium gives the measure of speed" and that is correct. There is no speed when the horse stands still. The greater the changes in the position of the line of gravitation outside of the base of the support, the faster will the legs have to be moved to avoid a fall. For this reason the running horse goes at a tremendous rate, for he advances his long neck, on the end of which there is a heavy head, and in so doing the center of gravity is advanced far ahead of the base of support formed by the two fore and two hind legs in their normal position. The horse in consequence has simply to chase forward, to get his legs or feet under his weight and thus avoid a fall.

The draft horse, on the other hand,

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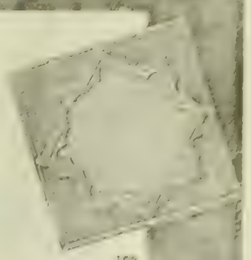

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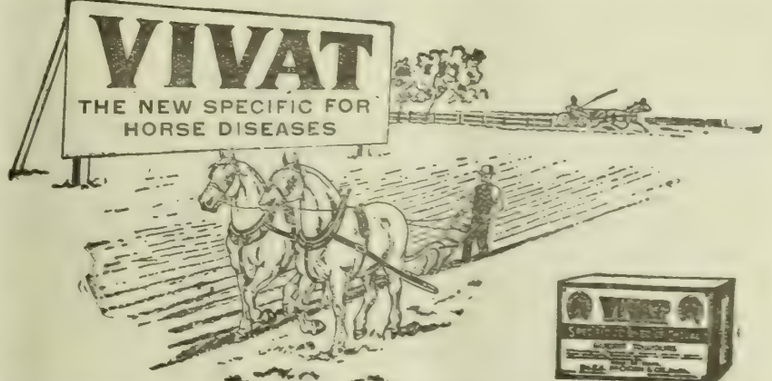

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does not have to move fast but has to move a great weight and so, when he goes to start a load, he lowers his head, brings it back to his chest, crouches his body, crooks his hind legs at the hocks, gets a grip on the ground with his toes and then straightens out his hocks by action of the great muscles of his hind quarters and loin. He lowers the center of gravity, increases equilibrium and takes full advantage of his stability and strength. Weight also enters into the proposition in holding him down and giving him the full advantage of his great muscles.

Take these matters into consideration when judging or buying horses and the estimate of the value of the horse will be more correct than ordinarily is the case.—A. S. A.

..PRESERVATION OF WOOD

From the stanpoint of the average consumer, more has been expected of wood and less done to help it serve a great variety of uses than almost any other building material. It is a comparatively modern conception that proper preservation treatment is prac tical and economical on the farm and around the house. Good paint is a good friend of lumber, and, while not usually considered in that light, is the one protection against the natural progress of decay which has been uni ersally used. Yet the well painted house has unprotected floor beams in moist walls, door steps on wet ground, and many inside surfaces and timbers which are continually exposed to conditions favorable to decay. The wonderful service which wood has given during all the years, with little or no consideration of the factors which destroy, brings into greater prominence the possibilities of preservative treatment under the present day desire for permanence and elimination of waste. No one expects unprotected steel to do anything but rust, concrete is waterproofed and its surface protected from abrasion and disintegration, fabrics are shielded from the elements, while wood has largely been left to shift for itself. The application of wood preserving methods to the every day uses of lumber, where it needs protection from decay, is in keeping with modern ideas.—Sterling.

BLACKLEG SERUM A CURE

Until serum was developed no cure was known once blackleg had attacked an animal. The only procedure was to vaccinate the entire herd, but this was not satisfactory after the diseasee had made its appearence, because it takes from five to seven days for the vaccine to take effect and a number of animals may die during that time.

With serum, however, the disease can be stopped instantly and in some cases affected animals cured. The use of serum does not interfere with the use of vaccine and can be followed by this in three to five days. This gives the animal protection after the serum treatment has lost its effect.

Blackleg serum has been used in Kansas on more than 2000 catle in herds in which stock was dying. Not a single case occured after its use, although in some instances animals had died in the herd within 12 hours preceding its use.

There seems to be no limit to the dose that may be given with safety and benefit. It has been used in doses of 500 cubic centimeters, or more than a pint, for three days in succession with good results on beef calves weighing about 400 pounds.

The doses employed as a protective measure are about 12 cubic centimeters for calves weighing beyond pounds, 20 cubic centimeters for calves weighing from250 to 460 pounds, 25 cubic centimeters for calves weighing 450 to 600 pounds and 35 cubic centimeters for stock weighing beeyond 600 pounds.

Fortunately corn contains some protein, as otherwise swine fed wholly on corn would die due to lack of this life-giving element in their ration.

Another Cup, Please!

A compliment the lady of the house may be sure of when she uses KING COLE TEA---and what woman does not like to have her tea appreciated!

KING COLE'S rich, mellow flavor gives the finishing touch to an enjoyable repast.

"You'll like the flavor"

KING COLE TEA

To Investors

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT, MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF $500 OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

May we send you a copy of our new book, "Desserts and Candies"? —practical—helpful—and free. Write for it to our Montreal Office.

221

"Mother Says We Couldn't Run The Farm Without

CROWN BRAND CORN PURE SYRUP

IT'S downright scandalous, the number of 20 pound tins I buy. But, as Mother says, we use it for 'most everything.

"Nothing else tastes quite so good on all kinds of Hot Bread, Johnny Cake and Griddle Cakes.

"Mother uses it for all her cooking—for Cookies, Cakes, Gingerbread and Pies.

"And I am almost ashamed to mention the quantity of 'Crown Brand' and bread that my youngsters consume. This syrup certainly is a favorite in my home".

The 20 pound tin is convenient and economical for home use, although you can get "Crown Brand" in 2, 5 and 10 pound tins and 3 pound glass jars. Ask your dealer.

THE CANADA STARCH CO. LIMITED

MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.

Makers of "Lily White" Corn Syrup—Benson's Corn Starch—"Silver Gloss" Laundry Starch.

INCREASE YOUR EGG OUTPUT

What can we do to improve our flocks and build up an egg laying strain? When the hatching season is on I would advise you to bear these things in mind:

1. It must be remembered that a chick with a strong constitution is better equipped for fighting diseases than a weak chicken with all the medicines and condiments known to the medical science. Then breed for constitutional vigor.

2. Many disease germs are transmitted from parent to offspring, so all diseased birds, or birds which ever have been diseased, should be removed from the flock. This past month we had a striking example of high vitality and low vitality. Two pens were housed in the same house, drank from the same pen, ate the same kind of food and slept under the same roof. One pen went all to pieces and every one of them were sent to the hospital. The pen on the opposite side withstood the severe weather, kept in splendid health, and is one among the very highest pens in egg production.

3. Breed only from a male which has been hatched from an egg laid by a high laying hen.

4. Select your best laying hens to mate with the above male.

5. Breed from early maturing pullets.

6. Don't breed from hens which are continually going broody.

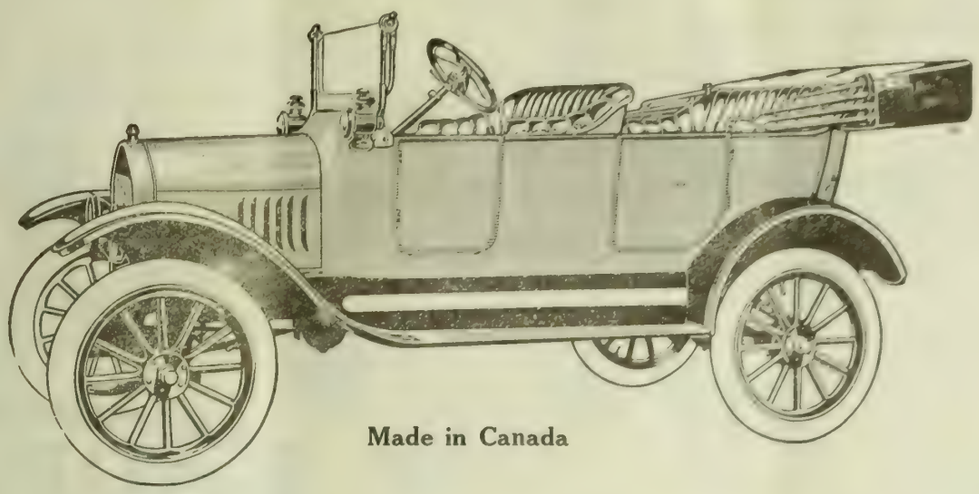
7. Breed from your hens and pullets which lay in November, December and January.

It is true the hen which has been laying through the winter will go to sitting first, but by this time the loafing hen has begun laying so the good hen is set on the poor hens' eggs, which practice has a tendency to produce a flock of loafers.—T. E. Quisenberry.

BREAKS ALL MILK RECORDS

From June 1st to July 15th the records of sixty-nine cows and heifers were received and accepted for entry in the Record of Merit. The sensational feature of this report is the Sylvia, the greatest milk producer the world has ever known. The largest official one-day milk record ever previously reported was 136.5 pounds. May Echo Sylvia sets the mark at 152.1 pounds. In seven days she gave 1005.8 pounds; in thirty days, 4,196.9 pounds; in sixty days, 8,220.1 pounds; in ninety days, 11,855.1 pounds, and in 100 days, 12,899.8 pounds, making her world's champion for all these periods. Her seven-day butter record of 41.00 pounds, gives Canada her first 40-pound cow; for sixty days, 323.32 pounds; for ninety days, 463.67 pounds and for 100 days, 505.34, all cahmpionship records for Canada. Some people affect to believe that payment for milk according to quality will give other breeds an advantage over the Holstein. May Echo Sylvia's record of 505.34 pounds of butter in one hundred days is a fitting answer to such claims. It is highly doubtful if any other cow in Canada, except a Holstein, could produce 75 per cent. of the above amount in the same time.

Three other cows make over 30 pounds of butter in seven days, viz.: Lady Aaggie Toitilla of Riverside, 30.49 pounds; Lulu Darkness, 30.33 pounds, and Jemima Johanna Wayne, 30.24 pounds. No senior four-year-olds are included in this report, but at the head of the juniors we find Princess Lulu Keyes with 27.06 pounds butter from 655 pounds milk. Gano's Bessie Faforit leads the senior three-year-olds with 27.05 pounds butter from 457 pounds milk. Pontiac Belle of Manor is best junior with 21.24 pounds butter from 419 pounds milk. This is only one of several very creditable records made at the Dominion Experimental Farms. Colony Netherland Segis 2nd scores for British Columbia in the senior two-year-old class with 22.84 pounds butter from 579.4 pounds milk, while Countless Walker Segis is a close second with 22.72 pounds butter. A class of nineteen junior two-year-olds is headed by Retta Maida Gladi with the good record of 24.51 pounds butter from 464.9 pounds milk. —Holstein Freisen Association.



Made in Canada

The 1917 Ford Touring Car

THE old, reliable Ford Chassis---Stream line effect---crown fenders---tapered hood ---new radiator with increased cooling surface.

Chassis -	$450	Coupelet -	$695
Runabout -	475	Town Car -	780
Touring Car	495	Sedan - -	890

f. o. b. Ford, Ontario

Ford Motor Company of Canada,

Limited,

Ford, Ontario

Assembly and Service Branches at St. John, N. B.; Montreal, Que.; Toronto, Ont.; Hamilton, Ont.; London, Ont.; Winnipeg, Man.; Saskatoon, Sask.; Calgary, Alta.; Vancouver, B. C.

BENDING ONION TOPS

Very frequently onions have a tendency to go to seed, especially those grown from sets, and more especially when the sets were rather large. To stop them from forming seed pods and ruining the growth of the onion, many persons have been in the habit of breaking or cutting off the tips of the stems carrying the seed pod. It is much better to simply bend the stems over, pinching them in such a manner as to stop the growth of the seed pod.

THOROUGHBRED OR PURE BRED

H. E. M. writes: "To settle a dispute, will you publish the correct use and meaning of the terms 'pure bred' and 'thoroughbred' as applied to live stock?"

The misuse of these two terms is one of the most common errors among those discussing pedigreed live stock. The correct application of hese shows thir essential difference of meaning.

The term "thoroughbred" applies to a distinct breed of light horse, the English running horse, and is used only to designate this breed in the same way as "standard bred" or "hackney" implies other breeds of light horses.

"Pure bred," which, to be correct, should be "purely bred," designates an animal from registered ancestry and with which a pedigree of breeding can be produced.

There is no more sense in speaking of a "thoroughbred" cow, sheep or hog than to talk about Shorthorn hog or a Berkshire sheep.

If your horses get sore backs and shoulders, it is your own fault. There is a thought in this connection that is worth while. It is about those backstraps that go down to the tugs. Do not try to regulate the draft by tightening the backstraps to the point where they will pull the tugs out of line. If they are even snug when hitched to the plow they will pull down hard on the back when hitched to a harrow. The work is hard enough to the team without the added burden of lifting the plow as well as pulling it. This weight comes directly over the loins where the back has no support from the ribs.

HOG CONDITIONERS AND WORM KILLERS

There are hundreds of formulas for hog conditioners. Which is the best has never been determined satisfactorily. A popular one is made up as follows:

Wood charcoal, 1 pound; sulphur, 1 pound; sodium chloride or common salt, 2 pounds; sodium bircarbonate or common baking soda, 2 pounds; sodium hyposulphite or the ordinary hypo used in photographic work, 2 pounds; sodium sulphate or Glauber's salts, 1 pound; antimony sulphite or black antimony, 1 pound.

These ingredients should be pulverized and thoroughly mixed. In case of undue laxativeness the Glauber's salts may be omitted. The dosage recommended is a large tablespoonful once a day for each 200 pounds of live weight of hog, to be mixed with the feed.

A formula used to a large extent in Iowa is made up as follows: Glauber's salts, 3 pounds; sal soda, 3 pounds; iron sulphate or copperas, 3 pounds; common salt, 1 pound; powdered sulphur, 1 pound.

The salt may be increased if desired, and this is sometimes done if the pigs tend to eat too much of this when it is allowed at free-will—the usual method. The salt is used as a governor or regulator, an increase or decrease of it affecting the consumption in proportion, but inversely. This mixture made up in large quantities should not cost more than two or three cents a pound. A number of our farmers are feeding it and apparently with good results, although there is no experimental work to back up their experience.

The animal husbandry section of this station has been working for some time on this condimental problem and so far our results would lead us to believe that these various materials if allowed, had best be given separately, or in "free-choice" style. A test conducted last year on eight groups of pigs showed some interesting results, which indicated, although not absolutely, that the addition of these compounds are beneficial. The best gaining lot received corn, tankage, sulphur, Glauber's salts and iron sulphate. The heaviest feed consumption was shown by the same lot, as well as the least feed requirement for 100 pounds of grain. In all cases where the separate ingredients were allowed in free-choice style the feed required for 100 pounds of gain was less than where these materials were mixed with the tankage. These are the results of only one test and should not be taken as conclusive, but merely indicative.

Generally speaking, worms are not killed by worm-killers, but they usually are paralyzed, so that they are no longer able to obtain a hold in the alimentary tract, and so are voided. Of course, it is entirely possible that some worm preventives will prevent the eggs from developing, and from that viewpoint the word "kill" may be in order.

For hogs that are infested with worms the best remedy I know of is a combination mixture of santonin and calomel. This can be given at the rate of 5 to 8 grains of santonin with 5 grains of calomel per 100 pounds of live weight. For a 200-pound hog we usually decrease the proportion somewhat, probably one-third or thereabouts, and a 500-pound hog would receive not more than 20 to 25 grains of santonin together with about 15 or 20 of calomel. The war has caused santonin prices to rise to a high figure, but disregarding the price if one wishes to secure results, he can certainly get them by using the santonin and calomel treatment—United States Experimental Station.

FIRST AID HINTS THAT WILL ASSIST IN HEALING WOUNDS

Living several miles in the country with no physicians or veterinarian, it is sometimes imperative to apply first aid to the injured until the proper help can arrive, be it man or beast. Many people have erroneous ideas about some of the more common remedies and they should be enlightened for their own benefit. It is a common practice to apply spirits of turpentine to all cuts or bruises of man or beast in which the skin is broken. Turpentine is not an antiseptic and it is doubtful if it does any good at all. It weakens and devitalizes the tissues, thus retarding healing rather than promoting it.

It formerly was a common practice among veterinaries and physicians to wash injuries and wounds with large volumes of an antiseptic solution in water, but it has been determined that so much washing weakens the tissues and washes off the protective serum that nature supplies for the repair of the injury. It is the common practice now, especially among veterinaries, to clean up the wound or injury by removing all dirt, hair, loose tissues, etc., and then apply a coating of tincture of iodine, either alone or in combination with glycerine, using one part of iodine to four parts of glycerine. Others prefer dry antiseptic dressings, of which there are several good ones. Iodine is one of the best antiseptics that we have; it stimulates healing, tends to stop minor hemorrhage, and will destroy any of the common bacteria that may gain access to the wound or injury.

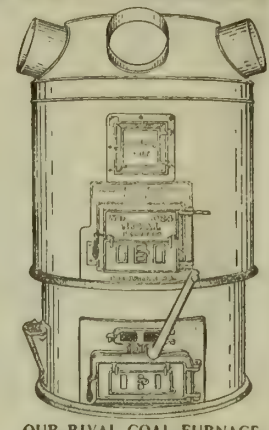
In nail wounds or calk wounds of horses' feet there is no agent that will give better results than iodine. Clean, the wound thoroughly by removing all dirt, hair, loose horn, and any other foreign substance, using very little water (none if you can help), as the water will tend to wash the different disease germs down into the depths of the wound where the antiseptic can not reach them and it may also burrow to foreign parts that otherwise would not become involved.

If a person meets with an accidental injury from a corn cutter, ax, nail, or any other object, iodine is as good an application as can possibly be used. Keep the injury clean, and the doctor will have very little to do other than make an inspection and give some advice to the injured. If there is a great amount of hemorrhage, apply tincture of iodine, then soak absorbent cotton and apply to the injury, and then bandage if possible. It is handy to apply, and is safe and reliable.

Keep at least a half pint of the tincture of iodine, a pound of absorbe nt cotton, and a quarter dozen three-inch cotton bandages about the house, and you will be able to take care of most injuries and cuts in a very satisfactory manner until you can secure professional help.—G. H. Conn.

Plenty of young stock on the farm is the very best indication that the farmer is progressive. The man who has pigs, calves and other young stuff around him is surely looking into the future and providing for an income year after year.

The hog's body is composed of about 55 per cent. of water, and accordingly the porker requires plenty of water to maintain him in healthy condition.



Fawcett Furnaces Warm the Air and Keep it Moist and Fresh

Warm Air is the Best Heat Because the Most Healthful

OUR RIVAL COAL FURNACE

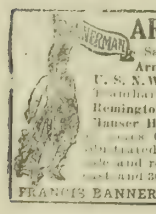
Fawcett

Hot-air Furnaces

are built for all fuels and are absolutely gas-tight. Equipped with sectional firepot, heavy gauge steel radiator, extra large evaporating pan, check damper and draft regulator, cupped joints, extra large feed doors, scientific cold-air supply, clean-out doors that are easily accessible.

CHARLES FAWCETT LIMITED
SACKVILLE · N · B · CANADA

EARN $10 to $25 A WEEK AT HOME
The Hosiery trade is booming
Help to meet the huge demand
Industrious persons provided with profitable, all-year-round employment on Auto Knitters. Experience and distance unnecessary.
Write for particulars, rates of pay, etc. Send 2 cents in stamps.
Auto-Knitter Hosiery (Can.) Co., Ltd.
Dept. 306E; 257 College St., Toronto



ARMY AUCTION BARGAINS
Saddles, $3.00 up. New uniforms, $1.50 up.
Army 7 shot carbine $3.50; etges. 1½c each
U. S. N. Winchester high power rifle 6m/m. $9.85
Remington Army Revolver, $4.85; etges. 1c each
Mauser High Power rifle with 200 etges. $19.85
Our 148 page Government Auction Goods Bargains illustrated and described in 428 large page wholesale and retail cyclopedia catalogue, mailed 15c east and 30c west of Mississippi River.
FRANCIS BANNERMAN, 501 BROADWAY, NEW YORK

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DOG DISEASES
And How to Feed
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H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York
America's Pioneer Dog Remedies

EDWARDSBURG GLUTEN FEED
23% PROTEIN GUARANTEED
is the ideal feed for milk production.

THE mere fact that it costs a little more than Bran, does not mean that it is more expensive. On the contrary, it is cheaper than Bran—it is about the cheapest feed you can give the cows—because it increases the milk yield so much.

We have a little book that tells about Edwardsburg Gluten Feed—what it does and how it makes money for you—write for a copy, free. 306

—FATTEN HOGS ON EDWARDSBURG OIL CAKE.

THE CANADA STARCH CO., LIMITED - - MONTREAL

THE TENDENCY TO HEAVY HORSES

Any reader who has lived in the central west as a pioneer will remember the pony horses with which the first farming was done. Could he see those horses today in comparison with the average farm horse of now he would be more than surprised at the difference in size. He remembers "Old Ned and Pete" as being small, but not as small as they really were. How we used to get as much work done as we did, and more especially when we consider that all machinery was at least a third heavier in draft then than now, is almost beyond comprehension.

The tendency of the times is toward a still heavier type of farm horses. Except where the soil is of a loose, loam nature, requiring less horsepower to move it, this tendency to heavier horses is proving a great help to better farming. As our soil becomes older it naturally plows harder, and whenever the seasons have been exceptionally wet, as the past two have been, the draft of all plows and cultivators is still further increased. The small horse, while possibly more active, cannot stand up to steady, heavy pulling as can the real draft horse. Since the almost universal adoption of the motor car for road work, there is no longer the need for the "all purpose" horse there once was; the farm horse of today is used almost exclusively upon the farm, or, if on the road at all, ahead of heavy loads—the motor car does the faster road work.

The old time theory that the small horse will kill the larger one at work is rapidly passing on. Time was, when the average farm team was used for light road work as well as for draft work in the fields, then there was reason in the theory that the light horse could outdo his heavier mate, but the work of the average farm horse is fast being simmered down to steady pulling where weight in the collar counts for more than swift action of the feet. Each year sees more and more heavy horses in use on the farms of the central west, and this is as it should be, for weight means power, and with power in plenty, the driver is more inclined to let the plow down to where it should go.—H. H. Kan.

PUSHING THE EFFICIENCY COW

The different dairy breeds are continually headed towards greater efficiency—increased production.

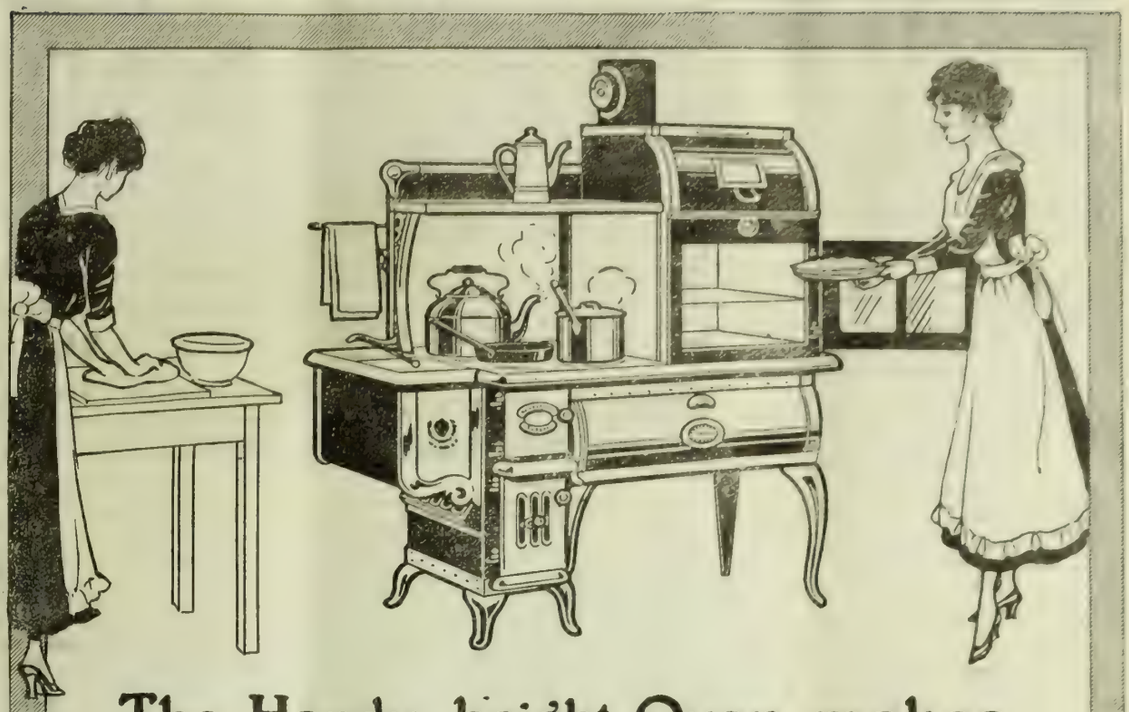
The American Jersey Cattle Club reports an incrase of 119 pounds of milk, 9 pounds of butter and .02 per cent. of fat for the last year, as compared with the year previous, taking ing into account 5244 tests. The average of all these tests is 5.35 per cent. fat.

The table below speaks well for this breed of cattle, and surely places them in the efficiency class. It is up to February 29, 1916:

	Milk lbs.	Fat lbs.	85% butter lbs.
1861 two-year-olds..	6,572	355	418
911 3-year-olds	9,377	400	471
668 4-year-olds	8,340	449	528
1,904 cows 5 years old or over.....	9,057	478	562
5,244 cows and heifers, all ages	7,792	417	490
10 2-year-olds	12,538	677	796
10 3-year-olds	13,626	779	916
10 cows, 5 years old.	16,803	928	1,092
Best 2-year-old records	14,513	816	960
Best 3-year-old records	17,793	910	1,071
Best 4-year-old records	16,147	937	1,103
Best records at any age	19,695	999	1,175

Official tests just concluded show that August Lassie, senior four-year old Ayrshire cow, has a record of 17,784 pounds milk, 720.03 pounds fat, and 840 pounds butter. Her milk averaged 4.05 per cent. fat. She is world champion in her class.

This breed also has another world champion, this one in the junior two-year-old class. She is Willowmoor Etta 3d, with a record of 16,621 pounds milk, 666.06 pounds fat, 784 pounds butter, and an average test for the year of 4.01 per cent. fat.



The Handy-height Oven makes a world of difference

Here is a big step in Kitchen reform.

Ranges with bend-over ovens made tired backs. Just try to count the many, many times dishes have to be lifted in and out of an oven. Count the times one had to stoop to see how things were baking. Modern woman has voted that stooping out of existence. The range of to-day *must have* a Handy-height oven.

For, a Lighter Day has dawned in the kitchen.

This new coal range has an oven that meets you at standing height. There is no bending over. Once things are placed in the oven they stay there until they are done. You don't bend down from time to time to see how they are doing. You simply watch them through the Clearview Door. Stooping is done away with absolutely. The thermometer, too, is up in plain sight.

And that Clearview Oven Door! Cakes have a far better chance when there is no jarring of the door. Isn't it a fine idea to save the constant disturbing of light cookery?

The Lighter Day Coal Range burns either coal or wood. It has six pot-holes, two of which are fully enclosed. Cooking odors can be kept from floating through the house.

This Lighter Day range is now in thousands of Canadian homes. Over 700 stores carry them in stock.

If you have not yet seen one, you can hardly realize the world of difference a Lighter Day would make in your work. Let us show you as well as we can in our Booklet, "A Lighter Day in the Kitchen." This is a booklet of photos showing a housewife using the many new labor-saving ideas of this wonderful range.

LIGHTER DAY HIGH OVEN COAL RANGE

Mail the coupon for a free copy.

CLARE BROS., & COMPANY, LIMITED, PRESTON, ONT.

14

Mar

Clare Bros. & Co., Limited. Preston

Send free book of photos of **Lighter Day Range**

THE LEFT-OVER VEGETABLES

When you go to town with a wagon load of vegetables on an "off day" what do you do with the truck which you cannot sell? If you reduce the price in order to dispose of the vegetables the customer will expect you to do it again, and will wait for the customary drop in price before buying.

Some gardeners prefer to carry the produce home or even to throw it away, but this seems wasteful when we remember how many empty mouths there are in the cities.

Why not drive into the poorer quarter of the city, and there sell at a low figure to householders who would otherwise buy nothing? Or in small towns where there are no "slums" the gardener may earn the gratitude of some local charitable organization by leaving the last of his load at its back door. And while charity has its own reward this method of disposing of his wares will also be very good advertising with regular customers.

SOUND SHOULDERS

Here are the directions posted in the stables of a construction camp which uses 1,200 mules in a Southern State, as told in a recent issue of "Country Life in America":

Wash the shoulders and the back of every saddle and pack animal with cold water at noon and rub dry. If a "green" or young animal, add a teaspoonful of alum or a pound of salt to a bucket of water.

All collars must be scraped at noon and every particle of dirt and sweat removed.

For fresh sores, apply elder leaves boiled in a lard mixture.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Jersey Cattle

Cann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls, N. B.

Guernsey Cattle.

T. D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorcheste , N. B.
James McKenny, Summerhill, Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

Ayrshire Cattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
Hon. W. Owens, 4026 Dorchester St., Montreal.
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S.

Shorthorn Cattle.

W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
Joseph E. Kinsman, Upper Canard, Kings Co. N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Oxford Down.

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shropshires

C A. Archibald, Truro, N. S.

Yorkshires.

R. J. Messenger, Lawrencetown, N. S.
Hon. W. Owens, 4026 Dorchester St., Montreal.
Sydney J. Goodliffe, Sussex, N. B.

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co. N. S.
A. A. H, Margison, East Centreville, Carleton Co., N. B.

White Wyandottes

R. J. Messenger, Lawrencetown, N. S.

HONEY FOR SALE !

Clover and Autumn Honey in pails of 5 and 50 pounds sizes. Warranted pure.

CRAIG BROS.,
AMHERST, - - N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

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Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock Lowest prices, Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B.

BARGAINS !

Buff Wyandotte Cock and Hen, nice o es, $8.00 per pair.
White Wyandotte Cock, 4 Hens and 2 Pullets, $6.00.
White Leghorn Cockerel and 5 Hens, $5.00.
Also choice lot of White Leghorn Cockerels, $1.00 each, if taken at once.
Jersey Heifer Calf, 5 months.

ORCHARD HILL FARM
Brown's Flats, N. B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

One Cent a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 1 cent a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is one cent a word, each insertion. MARITIME FARMER, Sussex, N. B.

TEN Shorthorn Bulls for sale. – WALTER EATON, Upper Canard, N. S.

WANTED TO BUY Yorkshire or Berkshire Boar, 7 or 8 months old. State price delivered. A. N McDONALD, South Cove, Victoria Co.,N.S

TWO fine pure bred Hampshire Rams for sale at reasonable price. Apply to GEO. R. WARD, West Bathurst, R. R. No. 1, Glou. Co., N. B.

R. I. RED COCKERELS FOR SALE, single and rose comb. Apply to E. C. GRIFFIN, Port William, N. S.

PRIVATE NURSES EASILY EARN $25 weekly. Conveniently learn d without leaving home Booklet free.—ROYAL COLLEGE OF SCIENCE, Dept. 113, Spadina Ave., Toronto, Canada.

FOR SALE.—Thirteen months old Guernsey bull, dam in advanced reg.—MRS. T.B.BLAIKIE, Great Village, N. S.

CANADIAN POULURY REVIEW, 39th year of publication. Bigger and better than ever. Departments conducted by specialists. Fifty cents year, three years one dollar. Sample free.—184 Adelaide St. West, Toronto, Ont.

LADIES TO DO PLAIN AND LIGHT SEWING at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

FOR SALE.—A few choice White Plymouth Rock Cockerels, egg laying strain; also fine exhibition bred Black Spanish Cockerels and several Old English Pheasant Fowl Cockerels. Write W. C. BOTHWELL, Rothesay, N. B.

FILL YOUR OWN TEETH at home, painlessly, with Dentol Enamel. Will save teeth and money. Stops toothache. Will harden and form a permanent filling. Send for it now, 35c. "DENTOL ENAMEL," 233 Lancaster St., West St. John, N. B.

FOR SALE.—Six horse power gasoline engine, called the Big Six, new, only used three days, steady work, with saw stand and tilting table and twenty-four inch saw, also grain grinder, never used, will keep three men busy passing cord wood to saw. Write W. H. KELLY, George's River, C. B.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.
P. R. L. FAIRWEATHER. St. John, N. B.

The healthy animal, whether it be a calf, pig, colt or a chicken, should always be ready at meal time. The little fellows that are always willing to eat and are never over-stuffed with food do the best.

Name the farm and then live up to the name. Don't look for something poetic and sentimental necessarily. Make it a name that carries business significance as well as a little artistic value.

Overfeeding is as wasteful and extravagant as underfeeding. Feed a ration that will enable the swine to utilize all the nutrients to the best advantage.

Don't forget to hang up a few bushels of seed corn real early this fall. A little thought and time put to this at the proper time will save both money and disappointments. Hang it up where there is abundance of air.

After apples are picked they should not be stored where the dry air will blow on them. It causes wrinkles and toughness to come to them sooner than necessary.

The market hog attains his full growth when about six months old.

FOR SALE!
R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

STRAWBERRY PLANTS

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

Elmwood Stock Farm
Offers for Sale :

Two cho ce young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

New Brunswick Grown Apple Trees

at

Lowest Prices consistent with quality

Agents wanted in every district

ALBERT NURSERIES, Albert, N.B.

SHEEP !

We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

Eastern Karakule Sheep Co.
Limited
WINDSOR, N. S.

Can You Grow Potatoes?
140 Acre Farm $3000

Show your wife the picture of the splendid 9-room house on page 3, "Strout's Peace and Plenty Catalogue," just out, and she will pack you off on the next train to secure it. You will want this farm when you see the handsome fertile loam fields where one crop of sweet corn and potatoes should pay for it. Orchard of 100 fine trees; 2 barns. Only 3 miles to depot village, saw mill and canning factory; 1000 cords wood, 100,000 timber that can be sold one mile haul. Owner called away makes low price $3000 and if taken soon he includes pair horses, 4 cows and heifers, wagons, sleds, chains, harnesses, tools, machinery, hay and crops in barn and cellar. $700 down and easy terms. Write today for catalogue with travelling instructions and go and see it.—E. A. SEROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston. Tel. Main 3348.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett.
Sackville, N. B.

Willow Glen Shorthorns

At present offering for sale—3 young Bulls and several Heifers, 1st prize winners in young herd at Halifax, all sired by champion bull, Statley Monarch

A. N. GRIFFIN, - New Minas

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

NOTICE !

to poultry dealers, country storekeepers, farmers or anyone interested in poultry. We are now issuing our weekly price list and will be pleased to send one each week to any person sending their names to

WALLERS', 712 Spadina Ave., Toronto
Crate-fed Chickens a Specialty.

LAWNDALE STOCK FARM
SHORTHORNS AND JERSEYS!

Our present offering in Shorthorns is a young bull, all red, dropped April 10th, 1916. out of the old champion, Merry Maid IV, and a few promising heifers, royally bred, also a very fine Jersey bull calf, out of a great producing dam. He was dropped in August, 1916. Can dispose of several grade Jersey heifers. Write for particulars.

I. M. LOVITT, M. D.,
Yarmouth North, N. S.

ELMHURST FARM

Present offering of choice litters of pure-bred Berkshire pigs, ready for delivery. Also some choice Buff Orpingtons.

R. R. BLACK,
Proprietor.
Oxford Junction, N. S.

Woman Must Sell
200-Acre Kennebec Valley Farm

Only 2 miles to village, near school and neighbors, mail del., telephone, cream collected. Wire fenced pasture, about 500 cords wood and 200,000 ft. pine and hemlock; 150 apple trees. Neat 10-room house, 60-ft. barn clapboarded and painted, spring water, convenient outbuildings. A money-maker for a potato man. Price only $3300, $1000 down. If taken immediately the woman owner throws in horse, 4 cows, 2 heifers, 2 hogs, hens, tools, wagons, harnesses, cream separator and a lot of oats and hay. For travelling instructions see page 2, "Strout's Peace and Plenty Catalogue," just out. Write for your free copy today. E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

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The Maritime Illustration Farms

We have just received a copy of the 1916 report of the Committee on Lands of the Canadian Commission of Conservation, in which the selection and work accomplished on the Illustration Farms is outlined.

As a number of these farms are located in the Maritime Provinces our readers will be interested in the following extracts from the report.

WHY AND HOW SELECTED

The selection of the Illustration Farms and the work attempted on them grew out of the survey of farms conducted by the Commission of Conservation in 1911-12. In the main the survey was undertaken to discover existing conditions as to:

1. The fertility of cultivated farm lands and its maintenance, increase or decrease as the case might be.
2. The prevalence of weeds.
3. The other hindrances to profitable and successful farming.
4. The methods and systems in use in carrying on farming practice effectively and satisfactorily.

This survey included 885 farms in the Maritime Provinces, Quebec and Ontario, taken in groups of thirty contiguous farms, and each group chosen to represent a district of the province in which it was situated. A schedule was drawn up on which to record the information obtained by the visiting collector. The information thus sought and obtained uncovered many facts in regard to the systematic rotation of crops, the selection of seed grain, the sowing of clovers and grasses, the care and use of manure, the prevalence of weeds, insects and diseases, the distribution of labor somewhat equitably over the whole year, and many other minor points. As a result of the survey many striking instances of particularly good farming were brought to light; some farms emerged from the level of the others, not so much because of better soil, as because of better planning, better system, better methods and, above all, better management. From among the best of such farms in each group a selection was made of one to become the Illustration Farm for the locality.

THE HOE CROP IN THE ROTATION

Turnip and potato crop on a Prince Edward Island Illustration Farm; this splendid crop is the result of good cultivation and care.

WHERE THE FARMS ARE LOCATED

There are twenty-four Illustration Farms in Eastern Canada, eleven of these are in the Maritime Provinces, located as follows:—

Prince Edward Island.

J. M. McLean, New Perth, Kings Co.

Adam Brown, New Glasgow, Queens Co.

Albert Schurman, Central Bedeque, Prince Co., Nova Scotia.

H. M. Tattrie, River John, Pictou Co.

Vernon B. Leonard, Central Clarence, Annapolis Co.

Taylor Bros., Antigonish, Antigonish Co.

Scott McDonnell, Port Hood, Inverness.

New Brunswick:

Chester Keith, Corn Hill, Kings Co.

Kenneth Raymond, Bloomfield, Kings Co.

Shaw Bros., Victoria, Carleton Co.

Fred Vautour, St. Louis, Kent Co.

INTELLIGENT MANAGEMENT RECOGNIZED

The survey established the fact that on these farms some measure of care and intelligence was used in the selection of setd grain and some system of rotation of crops was at least partially followed. On the farms so chosen more satisfactory results, on the whole, had been obtained in crops and in profits than on most of the other farms in the group.

The farmers themselves, of each group, in conference with the Commission's expert, chose the farms in their communities upon which they could have illustrations of further improved methods of farminf. These when proved to be beneficial, were to be applied to all the farms in their districts.

The Illustration Farmer, thus chosen, received no salary. He did not become the beneficiary of the public through political patronage; but by the choice of his neighbors, he became their leader, whom they would willingly follow. They did not need to follow his vagaries, if he had a.y, in regard to philosophy, theology or politics. It was not necessary to consult church or party in selecting the Illustration Farmer. He retained his ownership and full control of his farm. At the same time he received Counsel as to systems of rotation and methods of cultivation, the selection of seed, the growing of clovers and grasses, etc.; but the general administration of the business affairs of the farm was controlled entirely by the Illustration Farmer himself. He received all the financial returns resulting from the better crops.

The illustrations benefited the community also.

THE COST OF CARRYING OUT THE PLAN

The Illustration Farmers were directed, or rather assisted, by expert counsel from the Committee on Lands for two years, taking the crops of 1913 and 1914. The Illustration Farmers did not receive any salary.

However, in order that results might bt reached without unnecessary loss of time, the Committee decided to grant a limited amount of assistance to each farmer to provide (1) a supply of seed grain of suitable varieties and of selected quality, (2) the quanities of clover and grass seeds recommended above those required at the rates per acre previously sown, (3) trials, on limited areas, of after-harvest cultivation, seeds, manures, etc. These costs amounted, on the average, to $78 per farm per annum. The cost for salaries and travelling expenses of the Commission's advisers amounted, on the average, to $165 per farm per annum. The expense of initiating the undertaking and getting the work started was more per farm than it need be hereafter now that information has been obtained as to what is necessary and advantageous.

In the spring of 1915 the place of the Committee on Lands, in carrying out the arrangements made for the three year period of 1913-15, was taken by the Dominion Department of Agriculture, through the Division of Illustration Stations of the Experimental Farms. The Committee on Lands released Mr. John Fixter, who had been travelling instructor for the Illustration Farms, to accept a position in that division.

The Agriculturist of the Commission visited each of the Illustration Farms once during the season of 1915. Full reports of the results of the season's work have been received from the farmers themselves and by the kindness of the Director of the Experimental Farms.

PLAN TO SUIT INDIVIDUAL FARMS

The plan of work for each farm was made to suit its conditions. The plan was made by the Illustration Farmer himself, in each case after conference with the Commission's advisers. The frequent visits made by the Commission's advisers assisted the farmer to modify the general plan of work and the methods of its application from time to time.

In general the scheme of co-operation between the advisers and the farmer included consideration of the following matters:

The planning, commencing and carrying on of a suitable systematic rotation of crops for each farm and its neighbourhood.

The sowing of the varities and strains of grain suitable to the farm and the district.

Different rates per acre to ascertain the most suitable rate of seeding.

The sowing of different amounts per acre of clover and grass seed, to ascertain the most suitable rate of seeding of both home grown and purchased seed.

The sowing of various summer pasture mixtures.

The practising of after-harvest cultivation, extra and more thorough cultivation to kill weeds, conserve moisture and increase yields.

The introduction of labour-saving devices and up-to-date machinery.

The care and economical use of farm-yard manure.

The encouragement of a farm garden.

Directly and indirectly encouraging many other means to make the farm more profitable, the farm life more satisfactory and pleasant, and to help to keep the young people on the farms.

After all, in an enterprise such as the Illustration Farms, the first test of success is: "Does it pay?". It is not, "Does it sound well, look well, and conform to certain theoretical principles?" but, "Does it pay?" Does it pay in crops and profits? Does it pay in the resultant fertility of the farmer's fields according to the farmer's own estimate? Has the plan resulted in the decrease of weeds and in putting them under control? Has the farmer been shown how to apply labor to more advantage and has he been able to secure enough labor of the right kind The answers to these questions can best be given by the farmers themselves.

The arrangement with each Illustration Farmer was to last until he had harvested their crops. By the end of the third year, that is, at the end of the season of 1915, the farmer gave his opinions and conclusions as to whether the plan had worked out satisfactorily.

Statements were received from twenty-three out of the twenty-four farmers who were doing illustration work. Twenty state they are now practising a more suitable and systematic rotation than they did before commencing work with the commission three years ago. Seventeen report having changed the plan of their farms or fields, to some extent, to enable them to more advantageously practise the rotation advised by the Commission's instructor.

Three farmers are not practising a more suitable and satisfactory rotation than previously for the following reasons:—

One had already been following a three-year rotation, has continued it, and it has proven a great success

Another has been practising a systematic rotation for the last fifteen years and is continuing the rotation which he found to be suitable.

Kenneth Raymond, has a small portion of his farm devoted to cereal crops and roots, while a large portion of the farm is on the river flat, which is givien up to the growing of hay. The same rotation which has been practised on the cultivated portion is being continued.

Every farmer who has improved his rotation system says that it has increased his crop yields. Several state that there has been an increase but cannot say how much, while twelve state a definite increase, the average of which is 19 per cent.

Twenty-one state their farms are more fertile and freer from weeds than before, while twenty-two say that the following of a definite plan makes their work more profitable and also much more interesting.

The following extracts from their reports indicate the extent of the resultant increase in the yield of crops per acre. While perusing these please bear in mind that at the beginning of this work these farmers were already among the very best in their localities.

Chester H. Keith (Corn Hill, N. B.): Increase 33 per cent.

Fred Vautour (St. Louis, N. B.): I can plan my work better than before. My farm profits are about 30 per cent better.

H. M. Tattrie (River John, N. S.): Increase 20 per cent. The increase in crop yield has been largely due to the amount of couch grass we have killed.

Taylor Bros., (Antigonish, N. S.): Farm profits are much greater than before.

Scott McDonnell (Port Hood, N. S.): Increase 25 per cent.

Albert Schurman (Central Bedeque, P. E. I.): Increase 10 to 20 per cent. The time has been rather short (three years) to see the best results.

Adam Brown (New Glasgow, P. E. I.): Increase 10 per cent.

Sixteen of the men stated that they had not been sowing the varieties and straws of grain on their farms to give best results, and eighteen say they are now sowing varieties more suitable to their farms and their neighbourhood.

Only three claim to have been sowing selected seed before beginning work with the Commission, while now every man is sowing selected or registered seed, and they state it pays them in bigger and better crops. All of the men say that good seed has become something of much greater importance to them than previously. This is something which cannot fail to have lasting and far-reaching results in each community.

Anet this subject:—Chester H. Keith says: "I am now sowing the best of seed, whereas I used to sow seed of inferior quality. This is one way the Commission of Conservation has helped, not only me, but a number of neighbours, in obtaining good seed grain."

Taylor Bros. say:—"We have been sowing selected seed for the past eight or ten years; on the average our yields have been fully 50 per cent greater than they were before."

The question of the amount of grain to sow per acre to get best results have not received much attention by the farmers, and many did not consider the condition when determining the amount. Thirteen stated they now know that the amount sown previously was not suitable, and have changed their rate of seeding. Every farmer says he has found that cleaned and selected seed does not require to be sown so thickly as uncleaned seed, and that soil conditions should determine to a considerable extent the amount per acre to be sown. A number had previously given this point indifferent consideration, but ten stated that they had not thought of this at all previous to the visits of the Commission's travelling instructor.

One Ontario farmer says:—"We have found that the richer the land the smaller is the quantity of seed needed, and where the land is poorer a heavier seeding is needed. We formerly seeded it all the same."

CLOVER ENRICHES THE SOIL

The corn on the left was planted on land on which corn was grown the previous year; that on the right was planted on land which grew a clover crop the year before.

SOWING OF CLOVER SEED

Only two of the farmers claimed to have been sowing their clover seed thick enough to ensure a good catch. Twenty-one had been sowing an average amount of six pounds to the acre, whereas they now sow ten pounds to the acre. Some had sown as low as three or four pounds, but are now convinced that ten pounds is better and are sowing it. Three farmers had previously grown their own seed while now twelve are regularly doing so.

Again an Ontario farmer says: "The high price of clover seed had something to do with our sowing a small amount, but since growing our own seed we do not mind sowing it heavier and find that the extra seeding more than pays for itself'.'

Another farmer, who had not previously grown his own seed, states that in 1914 he produced 500 pounds of alsike seed and 100 pounds of red clover, while in 1915, he grew over 1,000 pounds of red clover seed. The farmer doing illustration work for the Commission in 1914, grew 1,200 pounds of red clover seed and had never grown a pound of his own seed previous to commencing work with the Commission.

J. M. McLean (New Perth, P. E. I.): During the last two years the first crop of hay was always much better on the area sown with 10 lbs. clover and 10 lbs. timothy, while this year we have an unusual stand of clover in the plots heavily seeded. * * * We find the second crop is always much thicker and of a better quality after the thick seeding.

SUMMER PASTURES ARE HELP IN FEEDING.

Only three of the farmers had previously sown summer pasture mixtures, while thirteen now make a practice of sowing a piece for summer pasture, and all state that it pays to do so.

The summer pastures are a great help in feeding the cattle during the months of July and August, and the land is greatly enriched for the next crop.

Vernon B. Leonard (Central Clarence, N. S.): I tried the summer pasture mixture last year and will try it

again next year. I believe it an excellent way to carry stock through the dry season when pastures are short. I think the farmers of this country should practise this plan.

Five of the farmers had been practising after-harvest cultivation previous to the visits of the Commission's instructor, while since his visits twenty have been practising it. Eighteen state that it has helped to keep down weeds, and that it has increased their yields and the profits from their farms. Some of their statements follow:

Our experience with after-harvest cultivation has proven to us that it helps greatly in keeping down weeds and the land is in a better condition to withstand the drought the next year.

Following clover seed production and seeding, this is, in my opinion, the next most important illustration. We find it pays from every standpoint and, as proof that this part of the work has been noticed, many of the farmers in this district are demonstrating its value for themselves and the acreage is yearly increasing. Three years ago this was not done.

If one wants good crops he has to gang plough and cultivate after the harvest.

After-harvest cultivation was not practised in this community until three years ago; and now many farmers are doing quite a lot of it, and find it very profitable, for it mostly ensures a good catch of grass and clover, leaving the land porous and fertile.

Albert Schurman (Central Bedeque, P. E. I.): I notice a good many of my neighbours are taking up this practice.

LABOUR AND TIME-SAVING DEVICES

Eighteen of the farmers say they are making more use of labour and time-saving devices than before; fourteen are using wider implements; twelve are making more use of three and four-horse teams, while twenty state that they now plan and adjust their farm work to better utilize the help on the farm they did before. Some of their statements are:

"Having used a three-horse team I find that it is a decided advantage."

"We have arranged our work so as to be able to employ all our help by the year."

"We find that up-to-date and improved machinery and methods are profitable in all ways."

"When I have to renew my implements I get wider ones, for I think the wider implements are more successful."

Fifteen of the farmers state that they are now applying their farm manure in a manner to get better results than previously. Eighteen of the farmers are now exercising more care to prevent waste. Twenty state that they recognize more fully the value of the manure than they did before the visits of the Commission's instructor.

Twelve of the farmers stated they had always paid some attention to the garden, but eighteen say they are now paying more attention to the farm garden and find it pays them to do so.

Twenty-two of the farmers say they are now taking more interest in their farm work generally than before. Seventeen say their young people have become much more interested. Every man states he is convinced that it is necessary for him to try things on his own farm to see what is really suitable to his farm community. Twenty-two of the farmers state that their farm profits generally are greater than before. Here is what some of the farmers say:—

"The satisfaction of trying things out for yourself, and seeing results, is bound to increase a person's interest in his work, and the illustration work on our farm has shown us what can be done."

"While we have been working under the Commission we have found it a great pleasure to try out these illustrations, and the young people have taken more interest in the work on the farm.

"We find as the years pass the work more interesting and instructive; and believe that it has been productive of great good throughout the surrounding country. Besides scores of farmers have made enquiries and are deeply interested in clover seed production and seeding, which is also practically a new thing in this part of the country."

"The illustration work on the field at the road has called forth the attention of the community at large, and it has proved to them, as well as to ourselves, that a four-year rotation is a very profitable one. They stop to enquire how it has been worked and seeded and are trying to copy it as far as possible."

"During the past summer I observed that the public was very much interested in your Illustration Farms. I received many visitors and I noticed that my illustrations were profitable to all."

Fred Vautour (St. Louis, N.B.): I am more attentive to my work in every way. The young people have a garden of their own. My farm profits are about 30 per cent better.

Chester H. Keith (Corn Hill, N. B.): The illustration work done here is bringing good results in many ways. The farmers are sowing much more clover seed, and, instead of getting the cheaper grades, they are now buying the best. A number of farmers were quick to take advantage of the chance to get good seed grain which had been grown from registered stock. A number of farmers are doing after-harvest cultivation, something that had not been practised around here before. I find that what suits one community does not always suit another. I believe you have to find out, by trying, what is best suited for your own farm and the community in which you live, but I must say that in almost every case where we have followed the advice given by the instructor sent out by the Commission, things have worked out wonderfully well.

Vernon B. Leonard (Central Clarence, N. S.): I am fully persuaded that the work of the Commission has been a good thing for me. I have learned many valuable lessons, and I believe my neighbours have benefited to some extent too.

Albert Schurman (Central Bedeque, P. E. I.): Results: better seed, better cultivation and better prices from having a good article to offer.

Summing up his reference to these farms, Dr. James W. Robertson, Chairman of the Committee says: "Visits to some of the Illustration Farms, examinations of the records in detail, and consideration of all the reports from the Illustration Farmers themselves, have given me great satisfaction. Of the many movements for welfare of the farmers, and the advancement of rural life generally, in which I have had the good fortune to take part, I do not recall any single undertaking which has been more entirely successful in accomplishing the objects aimed at than this one of the Illustration Farms of the Commission."

LIVE STOCK ON AN ILLUSTRATION FARM

Soil fertility can be maintained by growing plenty of clover and keeping live stock on the farm.

WHEAT SMUT CONTROL.

Wheat growers in this country not infrequently experience serious losses caused by preventable diseases. Wheat is preyed upon by a number of parasitic fungi, three of which are classed as smuts. Two of these smuts are common pests in the wheat fields of North America; the other, commonly known as flag smut, is thus far unknown in this continent, though it is fairly common in Australia and certain other parts of the world where wheat culture has been in progress for centuries.

Of the two smuts, bunt or covered smut of wheat, sometimes referred to as stinking smut, is found wherever wheat is grown, sometimes resulting in losses to the farmers of the United States of $20,000,000 or more annually. Not infrequently fields planted to untreated seed and giving promise of yielding 30 to 40 bushels per acre of good wheat will produce a crop of covered smut amounting, in some cases, to as much as 40 to 60 per cent of the crop.

This smut disease is caused by a parasitic fungus which attacks the growing wheat plant before the first leaf appears above ground. Once inside the attacked seedling it continues its growth, and by the time the wheat begins to head the diseased plants produce a crop of smut. If we examine the heads of such a plant we find, instead of normal wheat grains, only a lot of smut balls. In other words, the materials produced by the living plant for the purpose of building up sound wheat grains have been consumed by the parasite in forming its masses of smut spores which finally occupy the exact position in the wheat heads that would have been filled by the kernels had they been allowed to develop. These smut balls consist of nothing but millions of spores enclosed in each case by a thin enveloping membrane. When the smut balls are crushed the spores give off an odor not unlike that of herring brine. The liberated spores become attached to the seed, which, if planted without previous treatment, may produce another crop of smutted wheat.

Treat Seed with Formalin.

Bunt or covered smut of wheat is one of the most easily prevented of any of the cereal diseases. The following procedure is recommended: Run all seed wheat through a fanning mill in order to blow out the unbroken bolls. This being done, the grain should be soaked ten minutes in a solution consisting of one pound of commercial formalin (obtainable at nearly all drug stores) added to forty gallons of water. The seed thus treated is next allowed to drain and is then piled on the floor and stirred frequently until sufficiently dry to sow. If during this process the kernels have swollen very much, the drill should be set to sow a little thicker, else the quantity sown per acre will be less than was intended.

Recent experiments have shown that in certain sections of the

(Continued on page 72).

THE MARITIME FARMER.

And Co-operative Dairyman
Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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NOVEMBER 7, 1916.

DATES OF ISSUE.

November ..... 7—21
December ..... 5—19

POSSIBILITIES OF HIGHER EDUCATION

The improved financial condition in which many farmers will find themselves this fall should make higher education a possibility for many of their sons and daughters. The chief obstacle across the path of those who aspire to better education is the scarcity of help at home. This will undoubtedly bar some, particularly young men, from school, but will affect the ambitions of girls to a lesser extent. From among the catalogue of colleges and schools, no advice can be administered as to which will aid a prospective student in selecting that branch of education which will lead to the greatest ultimate success. Every individual has aims and aspirations for some particular activity, and this desire should be gratified, if consistent with good judgment.

The young man is to-day faced with the serious problem of deciding which is his greater duty—enlistment or school? This, again, is a personal matter, and we shall not attempt to solve it. But, dismissing that question, and supposing it to be a choice between going to an agricultural college or staying at home. What will it pay the young man to do? Individual circumstances, of course, must govern again, but in the majority of cases it will pay him to go to college.

Why? In farming, as in any other business, efficiency counts. Never before in the history of Canada has agriculture attained the position which it holds to-day. It is recognized as the most paramount of productive industries. Under the pressure of abnormal economic conditions, non-productive and unnecessary industries have been driven from existence; yet agriculture stands supreme. There is still an urgent call for greater efficiency in agriculture—better farming, better living and better business. This will be largely attained through better education.

Then too, an agricultural college training develops a "better man." It effaces the rough corners, develops one's individuality, as well as his social instincts, and fits him to become a better citizen in his community. The mere imparting of agricultural knowledge is not, perhaps, the greatest function of a college training. It is the bent of mind rather than the burden of mind—the faculty of seeing and thinking independently—that counts after all. What is developed in character is of more importance than what is drilled into the memory.

With out pursuing the argument too far, we say that in this age it is the trained man who succeeds, and farming to-day is more a work of skill and science than ever before. In what it makes of the young man in ambition, self-reliance and purpose, and in what it gives to him in technical knowledge and familiarity with the world of agricultural affairs, the college course is to be commended.

THE BREEDER'S OPPORTUNITY

The Nor'-West Farmer says:—There is ample evidence at hand to establish the claim that pure-bred live stock breeders are entering a period of unpresedented demand for their products. Before the coming winter is passed, there will be a dearth of good breeding stock, and several breeders will find themselves sold short. This will stimulate the inclination of many to fill mail orders with animals that are obviously unfit for breeding purposes. The demand of 1911, 1912 and 1913 had this effect, and the pure-bred industry, as a whole, suffered materially as a consequence. We have at hand the names of many men who have become permanentlp disgusted with pure-bred live stock through the unscrupulous tactics of certain breeders in such matters as furnishing pedigree certificates, delay in acknowledging correspondence and filling orders in a manner that betrays the confidence of the buyer.

It is time for a new standard of honor in this business. The opportunity to establish it is at hand. Because a breeder may receive a mail order for hogs, cattle or sheep, written by an individual in a remote portion of the country, in poor handwriting, and displaying ignorance of the business, does not justify such an act as sending this man an inferior individual that the breeder himself would not use. Neither does it justify any laxity in furnishing certificates of breeding. There can be only one correct standard for the conduct of this business. That is absolute integrity and business promptness. If the same courtesies are not extended by the purchaser, he can be held responsible.

Various live stock breeders' associations and record associations can well afford to devote themselves more earnestly to the protection of those who are financially interesting themselves in the pure-bred live stock business.

IS IT YOURS ?

One of the greatest assets any community can have is a well developed community spirit. The community spirit is the team spirit applied to larger units for the purpose of getting things that are worth while done. When a community works as a unit for the accomplishment of some worthy aim, that aim is as a rule soon realized. It is not an exaggeration, then, to say that one of the greatest assets of a community is a well developed community spirit.

Community spirit is something that can be developed. It is not something that just grows or comes down like manna from heaven. Its germ is usually an idea. This takes root in some mind. It spreads to other minds. If it spreads far enough, it takes in the community. Then you have the beginnings of a real community spirit. Let the people of a community agree on an idea, or ideal, to be realized, say, in the building of a new school, and let them through co-operation achieve their ideal; then they are ready for some other worthy enterprise. The idea of working together is taking hold. The main difficulty is to get community seed that will germinate. But the community spirit can be developed.

If the community spirit can be developed and is so great an asset, why not begin its development early? Why not make its development a part of our education? To do so would be to go out from the university equipped for efficient work and service in any line.

Why not develop the community spirit by working together as a unit?

By cultivating the community spirit here one will be the better able to help develop it in his home community.

In that there is a germ idea that may become one of the greatest assets of this community.

FIRST RULE IN GOOD MARKETING

Is to sell as much as possible in the market nearest you. Yet many towns and villiges have to import their fresh fruits, vegetables, some of their meats and even eggs or poultry, although located in the midst of a farming region.

This is all wrong. In the days of '49, the Californians who raised what the gold seekers consumed, got rich, while most of the miners went broke. Your local market may conceal a little gold mine for you. To keep down your own living expenses, make the farm produce more of what you can consume.

* * *

Never add warm cream to the cool.

* * *

To spend money on blooded stock and then fail to give it proper care is money wasted.

* * *

Keep the separator and its surroundings clean.

In caring for milk, cleanliness and cold are the two great essentials.

* * *

The question is not "What is the average production of the herd?" but "is each cow in the herd a profit-maker?"

* * *

Experience is the great teacher, but this does not mean that you have to try everything out yourself. The wise man learns by the experience of others.

* * *

Compulsory standards for grading laws appear to be necessary in order to bring about healthy, honest competition and protection to the progressive growers and to the consumer.

* * *

Don't forget the big Maritime Poultry Show to be held under the auspices of the Maritime Stock Breeders' Association at Moncton, N. B., on Tuesday, Wednesday, Thursday and Friday, December 12th, 13th, 14th and 15th, 1916.

* * *

If there is any truth in the statement that "charity begins and ends at home," then it is doubly true that community cooperation is a sacred duty on the part of every good citizen. Keep your money at home, where it will do the most good. You are undoubtedly interested in the groth and welfare of thecommunity in which you live, and it is safe to say that you would not willingly commit an act that might tend to retard its developement.

The Big New Brunswick Apple Show

New Brunswick's third apple show held under the auspices of The New Brunswick Fruit Growers' Association and The New Brunswick Department of Agriculture was staged in St. Andrew's Rink, St. John, on October 31st to November 3rd inclusive.

The New Brunswick Department of Agriculture has for several years been fostering the fruit growing industry of the province. The Fruit Growers' Association has been bringing the growers together from time to time for an exchange of ideas and to hear the last word on the various phases of fruit growing from practical men who have made a life study of the industry, and who are well able to give advise that materially helps the growers surmount the difficulties they encounter. Ever since the Horticultural department was organized, Mr. A. G. Turney, the official in charge and his assistants have been indefatiguable workers to place fruit growing in New Brunswick on the solid basis that the province's possibilities for the extensive and profitable pursuit of the industry warrant.

We have had the pleasure of visiting the first, second and third apple shows held in New Brunswick. We have also visited other apple shows in the neighboring provinces and we have no hesitation in concurring in the opinion, with those who are in a position to know, that the apple show just closed in St. John, was the largest yet staged in Eastern Canada.

A visitor, on entering St. Andrew's Rink, unless he or she was conversant with the splendid fruit growing possibilities of the province, naturally exclaimed, "where did all this fruit come from?" and on being told that every apple at the show were grown in New Brunswick, "Well, I had no idea so much good fruit was grown in the province."

From what sections of the province did the fruit come? was a question frequently heard. The reader who will take the trouble to read the list of awards published in this issue, will learn that the apples came from widely scattered districts in the province. The valleys of the rivers St. John, St. Croix, Kennebecasis, Belle Isle, Miramichi, Richibucto and the Petitcodiac and other districts in the province are eminently adapted to fruit growing, as testify the quantity and quality of the apples from these districts at the big show.

Staged on two inclined slopes against the rear end of the rink and facing the main entrance was an aggregate of 426 boxes of apples arranged according to varieties to give a good color scheme. Between the inclined slopes was a vertical panel, on the centre of which apples were artistically arranged to form a representation of the good old Union Jock.

Ranged around the flag were large maple leaf shaped pannels made of green, yellow, red and gold apples to represent these beautiful autumn leaves, one for each province and territorial district in Canada, and below all in the form of a semi-circle worked with small red apples the motto:—"Canada will never let the old flag fall."

Arranged on long tables in the centre of the rink were the plate exhibits in singles, fives, collections of six commercial varieties, best collections from various counties in the province.

Ranged on the left side of the rink were the barrels, boxes and baskets of the different varieties and on the right side the Advertising Booths' Exhibits of Apples, arranged by F. A. Hubbard & Son, Burton; B. F. Peters, Queenstown; Mrs. E. M. Darcus, Fredericton; W. B. Gilman, Fredericton; St. John Valley Nurseries, Brighton; W. P. & F. L. Fox, Lower Gagetown; A. R. Gorham, Gorham's Bluff; W. A. Colpitts, Mapleton; New Brunswick and British Colonization Co., Fredericton, and Harry Orchard, Whites' Cove.

On the left of the entrance was tastily arranged a splendid array of collections of home grown, preserved and canned, dried and pickled or put up in any way, intended to prolong keeping qualities for food purposes, fruits and vegetables displayed for competition by the Women's Institutes of New Brunswick. The Institutes taking part in this competition, and the number of jars in the respective collections were as follows, the first six in their respective order being the prizewinners:—

1. Sussex 58
2. Lower Millstream.....37
3. Florenceville 25
4. Lower Kingsclear.....43
5. Hopewell Hill.....14
6. Kennebecasis Valley.....35

Cody's, 14; Lake George, 23; Stonehaven, 34; Newcastle, 18; Minto, 11; Smiths Creek and Newtown, 24; Blackville, 28; Hartland, 7; Salmon Beach, 7; Poodiac and Jeffries Corner, 18; Hammond and Markhamville, 12; Albert, 18; Welsford, 28; Leverville, 20; B. N. Boyer, St. John, 12.

Close to the Women's Institutes' display was an array of bee keepers supplies, bees wax and honey and culinary products in which honey was one of the ingredients, surmounted by the admonitions "Eat Honey", and "Keep Bees."

The St. John Valley Nurseries showed some specimens of apple and ornamental trees and shrubs and a nice box of St. Regis strawberries, one of the Everbearing varieties. The luscious ripe strawberries picked in October looked well to us.

At the right of the main entrance was an attractive booth arranged by Mr. W. W. Hubbard, Supt. of the Experimental Farm, Fredericton, who is doing such good work in the development of that new experimental station which is destined to be of so much benefit to the farmers of the province who will avail themselves of the opportunity of keeping in touch with the experiments there conducted.

As a guide to the varieties of apples and the sections in which the respective varieties are grown in the province the reader can refer to the list of prize winners in this issue.

The first prize collections from the respective counties contained varieties as follows:—

Queens County—Grimes Golden, Bishop Pippin, Pewaukee, Fameuse, Ben Davis, Stark, Mac Mahon's White, St. Lawrence Golden Russett, Alexander, Baxter, McIntosh, Wealthy, Fallawater, Twenty Ounce, Ribston Pippin, Merritt, Golden Egg, Duchess, Canada Baldwin.

Westmorland County—Baxter, Wealthy, Stark, Greening, Scarlet Pippin, Colvert, McIntosh, Alexander, Ontario Wolf River, Duchess.

Albert County.—Wolf River, Alexander, Fameuse, Duchess, Canada Baldwin, Blenheim, Wealthy, Scott's Winter, Milwaukee, Baxter, Dudley, McIntosh.

St. John County.—Stark, Alexander, Gravenstein, Wealthy, Duchess, Dudley.

York County.—Golden Russett, Fameuse, Ontario, Alexander, N. W. Greening, Fallawater, Salome, Tolman, Baxter, Milwaukee, Wealthy, McIntosh, Mac Mahon's White, Dudley, Wolf River, Gano, Northern Spy, Ben Davis, Duchess, Pewaukee, Bishop Pippin.

Kings County.—Alexander, Bethel, Northern Spy, McIntosh, Pomme Grise, St. Lawrence, Red Gravenstein, Wolf River, Dudley, Gravenstein, Bishop Pippin, Ontario Hyslop, Grimes Golden, Duchess, King, Wealthy, Fameuse, Fallawater, Rolffe, and Seedling.

Sunbury County.—Scarlet Pippin, Tolman, St. Lawrence, Jennetting, Eureka Pippin, Colvert, Scott's Winters, Pomme Grise, New York Winters, McIntosh, Peerless, Dudley, Bishop Pippin, Ontario, Hyslop, Grimes, Golden, Stark, Wolfe River, Pewaukee, Fameuse, Baxter.

Gloucester County.—Ben Davis, Tolman, Baxter, Duchess, McIntosh, Wealthy, Alexander, Arctic, Wolf River, Betigheimer, Dudley.

Northumberland County. Scott's Winter, Gano, Hyslop, Haas, Winter Bough, Bethel, Wealthy, Blue Pearmaine, Queens Choice.

Charlotte County.—McIntosh, Fameuse, Stark, Alexander, Wolfe River, Ben Davis, Wealthy, Milwaukee.

Kent County.—Pewaukee, Ben Davis, La Salle, Mac Mahon's White, Wolfe River, Wealthy.

The best collection from any one farm in New Brunswick was shown by Cossar Farm, Lower Gagetown, and contained the following varieties:—

Grimes Golden, Ben Davis, Milding, Mc Mahon's White, Pewaukee, Fameuse, Eureka, Fallawater, McIntosh, Stark, Canada Baldwin, Golden Egg, Golden Russett, Merritt, Blue Pearmain, St. Lawrence, Winter St. Lawrence, Jennetting, Twenty Ounce, Baxter, King of Tompkins, Wealthy, Ribston Pippin, Red Betigheimer, Tolman, Alexander, Duchess, Dudley, Bishop Pippin, Max Codling.

The first prize for best six commercial varieties went to Mrs. E. W. Darcus, Lower Kingsclear on McIntosh, Fameuse, Dudley Winter, Alexander, Wealthy and Northern Spy. The best five baskets, one variety were five baskets of McIntosh Reds shown by Mrs. E. W. Darcus, as was also the sweepstakes prize for the best box, any variety.

The Advertising booths already referred to were encouraged by cash, aggregating $85.00, donated by: The New Brunswick Cold Storage Co.; Jones & Schofield; H. Horton & Son; Vassie & Co.; T. H. Estrabrooks Co., Ltd.; J. M. Robinson & Son; J. M. Humphrey & Son; Manchester, Robertson & Allison and $27.00 additional from the Provincial Government Grant. Campbell Bros., axe manufacturers, gave three of their best axes as special prizes. Then there were special prizes offered by the St. John Board of Trade, Senator W. H. Thorne, J. A. Likely, P. W. Thompson, A. H. Wetmore and J. A. Marvin.

The judges were Prof. W. S. Blair, Superintendent Experimental Station, Kentville, N. S.; C. W. Baxter, Chief Fruit Inspector for Eastern Ontario and Quebec; Prof. T. G. Bunting, MacDonald College; A. J. Logsdail, of the Experimental Farm, Ottawa; P. J. Carey, Fruit Packing Demonstrator for the Dominion and Geo. H. Vroom, Chief Fruit Inspector for Nova Scotia, all of whom had good things to say about the big show.

The apples were well grown, well colored, quite free from evidences of the ravages of fungus and insect pests, and in the majority of cases showed that considerable of care and intelligence had been exercised in the selection, handling and packing. There were a few instances where the packing was not up to the highest standard but as the growers are anxious to learn and are asking for instruction and practical demonstrations along this line, we look for improvement in the future pack.

Mr. Turney and his assistants worked faithfully and well to help the fruit growers stage their big show, and we have no doubt the result will be that consumers who visited the show will begin to enquire more than ever before for New Brunswick grown apples.

Following is a complete list of the prize winners and number of entries in the respective sections:

Class I.—Best Plate of fine apples.

Bishop Pippin—16 entries—1. A P Slipp, Upper Hampstead 2. F C and H G Smith, Long Reach; 3. A R. Gorham, Gorham's Bluff 4. W P & F. L. Fox, Lower Gagetown, 5. Alex P. Dumphy, Douglas.

McIntosh—27 entries—1. Mrs. E W. Darcus, Fredericton; 2. Cossar Farm, Lower Gagetown; 3. F C & H G Smith; 4. W. P. & F. L. Fox 5. J. W. Clark, R. F. D. 2 Fredericton.

Fameuse—30 entries—1. W. B. Gilman, Fredericton; 2. Cossar Farm, 3. F. A. Hubbard & Son, Burton; 4. H. B. Steeves, Shediac; 5. Mrs E. W. Darcus.

Dudley—22 entries—1. W. B. Gilman; 2. St. John Valley Nurseries Burton; 3. F. C. & H. G. Smith 4. Matthew P. Smith, New Bandon 5. New Brunswick & British Colonization Co.

Duchess—14 entries—1. Thos. A Clark, Chartersville; 2. W. P. & F L. Fox; 3. St. John Valley Nurseries; 4. Cossar Farm.

Wealthy—23 entries—1. St. John Valley Nurseries; 2, Mrs. E. W. Darcus; 3, Thos. A. Clark; B. J. Power, West Bathurst.

Alexander—22 entries—1, W. B. Gilman; 2, F. C. & H. G. Smith; 3 Mrs. E. W. Darcus; 4. Thos A. Clark.

Wolf River—25 entries—1. W. B Gilman; 2. Thos. A. Clark; 3. Rev Chas. H. Fullerton, Prince William; 4. F. C. & H. G. Smith.

Bethel—7 entries—1, F. C. & H. G. Smith; 2, Alex. G. Dumphy; 3 A. R. Gorham; 4, N. A. Sterritt, Grey's Mills.

Milwaukee—15 entries—1, J. E Holder, Lower Cambridge; 2. Thos. A. Clark; 3, Camber Bros., Springhill; 4, Rev. Chas. H. Fullerton.

Class II.

Gravenstein—9 entries—1, Thos. A. Clark; 2, F. C. & H. G. Smith; 3. B F. Peters; 4, N. A. Sterritt.

Ribston—9 entries—1, Thos. A Clarke; 2. Cossar Farm; 3, B. F. Peters; 4. Thos. L. Alexander.

King—8 entries—1. F. C. & H. G Smith; 2, A. J. Slipp; 3. B. F. Peters; 4. J. W. McKiel.

Golden Russett—18 entries—1, Cossar Farm; 2, Mrs. S. W. Darcus; 3, B. F. Peters; 4. Isaac W. Stephenson.

Northern Spy—12 entries—1. F. C. & H. G. Smith; 2. J. E. Holder; 3 W. B. Gilman; 4 Mrs. E. W Darcus.

Stark—13 entries—1. W. E. Armstrong; 2. Harry Orchard; 3. J. E. Holder; 4. Thos. A. Clarke.

Ben Davis—23 entries—J. R. Dykeman; 2, St. John Valley Nurseries; 4 W. P. & F. L. Fox.

Class III.

Princess Louise—4 entries—1, N. B & B. Col. Co.; 2, Isaac W. Stephenson; 3, Robert J. Shaw.

Blenheim—5 entries—1, Thos. L. Alexander; 2, N. A. Sterritt; 3, Robt. A. Smith.

Grimes—8 entries—1, F. C. & H. G Smith; 2, Mrs. E. W. Darcus; 3, W B. Gilman.

Baxter—25 entries—1, W. B. Gilman; 2, St. John Valley Nurseries; 3, Robert A. Smith.

Tolman—11 entries—1, B. F. Peters; 2, Cossar Farm; 3. Alex G. Dumphy.

Fallowater—7 entries—1. Cossar Farm; 2, W. B. Gilman; 3. Mrs. E. W. Darcus.

Ontario—12 entries—1, Thos. A. Clark; 2, Cossar Farm; 3, W. P. & F. L. Fox.

Lalome—6 entries—1. W. B. Gilman; 2, F. A. Hubbard & Son; 3. Isaac W. Stephenson.

St. Lawrence—7 entries—1, F. C. & H. G. Smith; 2, J. R. Dykeman; 3, Thos. A. Clarke.

Winter St. Lawrence—5 entries—1, Cossar Farm; 2, A. P. Slip; 2, J. E. Holder.

Canada Baldwin—9 entries—1, Thos. L. Alexander; 2, Matthew P. Smith; 3, Cossar Farm.

Mac Mahon's White—7 entries—1, Cossar Farm; 2, J. E. Holder; 3, Matthew P. Smith.

N. W. Greening—6 entries—1, Alex. G. Dunphy; 2, W. B. Gilman; 3, Alban Dionne.

Scott's Winter—7 entries—1, Isaac W. Stephenson; 2, N. B. & B. Col. Co.; 3, St. John Valley Nurseries.

Blue Pearmain—2 entries—1, J. R. Dykeman; 2, Cossar Farm.

Gano—9 entries—1, W. B. Gilman; 2, Rev. Chas. H. Fullerton; 3, St. John Valley Nurseries.

Milding—4 entries—1, W. B. Gilman; 2, Alex. P. Dunphy; 3, J. E. Holder.

A. O. V.—21 entries—1, St. John Valley Nurseries; 2, Thos. A. Clarke; 3, Cossar Farm; 4, A. R. Gorham; 5, W. B. Gilman.

Class IV.—Crab Apples—Best Plate of 12.

Transcendent—5 entries—1, Matthew P. Smith; 2, Alex. G. Dumphy; 3, Wm. A. Colpitts.

Hyslop—7 entries—1, F. C. & H. G. Smith; 2, Rev. Chas. H. Fullerton; 3, J. E. Holder.

Whitney—1 entrie—1, Thos A. Clark.

Any other variety—1 entry—2, Wm. A. Colpitts.

Class V.—Pears—Best plate of 5.

Flemish Beauty—3 entries—1, R. A. Snowball, Chatham; 2, W. P. & F. L. Fox; 3, B. F. Peters.

Class VI.—Collection of Apples, 5 of each variety grown in

Gloucester County—1 entry—1, B. J. Powers.

Northumberland County—2 entries—1, J. W. Vanderbeck; 2, F. Habermann.

Kent County—1 entry—1, Alban Dionne.

Westmorland County—2 entries—1, Thos. A. Clarke; 2, H. B. Steeves.

Albert County—2 entries—1, Robert A. Smith; 2, Wm. A. Colpitts.

Kings County—5 entries—1, F. C. & H. G. Smith; 2, A. R. Gorham; 3, N. A. Sterritt.

St. John County—1 entry—1, Wm. R. McFate.

Charlotte County—2 entries—1, W. E. Armstrong; 2, Frank Scott.

Queens County—5 entries—1, Cossar Farm; 2, W. P. & F. L. Fox; 3, A. P. Slipp.

Sunbury County—5 entries—1, F. A. Hubbard & Son; 2, St. John Valley Nurseries; 3, Thos. L. Alexander.

York County—4 entries—1, W. B. Gilman; 2, Mrs. E. W. Darcus; 3, New Brunswick & British Colonization Co.

Class VII.

Best collection of six varieties of apples, fine specimens of each, grown by exhibitor—17 entries—1, Mrs. E. W. Darcus, Lower Kingsclear; 2, W. B. Gilman; 3, A. G. Dumphy; 4, Cossar Farm; 5, W. P. & F. L. Fox.

Class VIII.

Best collection of apples, not necessarily the largest, grown on any one farm in New Brunswick, 5 specimens of each.—17 entries—1, Cossar Farm; 2, W. B. Gilman; 3, Mrs. E. W. Darcus; 4, F. C. & H. G. Smith; 5, W. P. & F. L. Fox.

Class IX.—Best box of Apples ready for shipment.

McIntosh—10 entries—1, Mrs. E. W. Darcus, Fern Hill, Fredericton; 2, Cossar Farm, Lower Gagetown; 3, W. B. Gilman, Fredericton.

Fameuse—9 entries—1, W. B. Gilman; 2, W. P. & F. L. Fox, Lower Gagetown; 3, F. C. & H. G. Smith, Long Reach.

Louise—2 entries—1, N. B. & B. Colonization Co., Fredericton; 2, I. W. Stephenson, R. R. No. 1, Maugerville.

Dudley—7 entries—1, W. B. Gilman; 2, F. C. & H. G. Smith; 3, N. B. & B. Col. Co.

Wealthy—11 entries—1, St. John Valley Nurseries, Burton; W. B. Gilman; 3, Cossar Farm.

Bishops—6 entries—1, W. P. & F. L. Fox; 2, F. C. & H. G. Smith; 3, Cossar Farm.

King—3 entries—1, F. C. & H. G. Smith; 2, B. F. Peters, Queenstown; 3, A. R. Gorham, Gorham's Bluff.

Ribston—6 entries—1, B. F. Peters; 2, I. W. Stephenson; 3, Cossar Farm.

Bethel—3 entries—1, F. C. & H. G. Smith; A. G. Gorham; 3, N. A. Sterritt, Grey's Mills.

Golden Russett—6 entries—1, Cossar Farm; 2, B. F. Peters; 3, W. P. & F. L. Fox.

Canada Baldwin—3 entries—1, Cossar Farm; W. P. & F. L. Fox.

Baxter—10 entries—Cossar Farm; 2, I. W. Stephenson; 3, W. P. & F. L. Fox.

Gravenstein—4 entries—1, F. C. & H. G. Smith; 2, B. F. Peters; 3, A. F. Gorham.

Northern Spy—7 entries—1, F. C. & H. G. Smith; 2, J. E. Holder, Lower Cambridge; 3, Mrs. E. W. Darcus.

Alexander—12 entries—1, W. B. Gilman; 2, F. C. & H. G. Smith; 3, Mrs. E. W. Darcus.

Tolman Sweet—5 entries—1, Cossar Farm; 2, B. F. Peters; 3, A. R. Gorham.

Any other variety—17 entries—1, F. C. & H. G. Smith; 2, Cossar Farm; 3, J. Meiklejohn.

Class X.—Best barrel of apples ready for shipment.

Alexander—9 entries—1, W. B. Gilman; 2, Camber Bros.; 3, F. C. & H. G. Smith.

Wolf River—11 entries—1, W. B. Gilman; Alex. G. Dumphy; 3, Camber Bros.

Dudley—8 entries—1, F. C. & H. G. Smith; 2, W. B. Gilman; 3, N. B. & B. Colonization Co.

Wealthy—2 entries—1, W. P. & F. L. Fox; 2, St. John Valley Nurseries.

Fameuse—5 entries—1, W. P. & F. L. Fox; 2, F. A. Hubbard & Son; 3, W. B. Gilman.

Bishop Pippin—5 entries—1, F. C. & H. G. Smith; 2, W. P. & F. L. Fox; 3, A. R. Gorham.

Bethel—2 entries—1, Alex. G. Dumphy; 2, F. C. & H. G. Smith.

Golden Russett—2 entries—1, W. B. Gilman; 2, B. F. Peters.

Ribston Pippins—4 entries—1, I. W. Stephenson; 2, B. F. Peters; 3, N. A. Sterritt.

Pewaukee—3 entries—1, W. B. Gilman; 2, St. John Valley Nurseries; 3, I. W. Stephenson.

Baxter—3 entries—1, F. A. Hubbard & Son; 2, J. E. Holder; 2, I. W. Stephenson.

Any other varieties—9 entries—1, F. C. & H. G. Smith; 2, T. Clark; 3, W. B. Gilman.

Class XI.—Best 8 Quart Basket of Apples

Dudley—8 entries—1, F. C. & H. G. Smith; 2, N. B. & B. Col. Co., 3, M. P. Smith.

Wealthy—9 entries—1, Mrs. E. W. Darcus; 2, B. F. Peters; 3, J. W. McKiel.

Fameuse—11 entries—1, W. B. Gilman; 2, H. B. Steeves; 3, Mrs. E. W. Darcus.

Bishop Pippin—5 entries—1, Mrs. E. W. Darcus; 2, A. R. Gorham; 3, B. F. Peters.

McIntosh—9 entries—1, F. A. Hubbard & Son; 2, Mrs. E. W. Darcus; 3, F. C. & H. G. Smith.

Princess Louise—2 entries—1, N B. & B. Col. Co.; 2, I. W. Stephenson.

Ribston—4 entries—1, B. F. Peters; 2, W. A. Sterritt; 3, I. W. Stephenson.

Gravenstein—5 entries—1, B. F. Peters; 2, F .C. & H. G. Smith.

King of Tompkins—3 entries—1, F. C. & H. G. Smith; 2, J. W. McKiel

Golden Russett—6 entries—1, Mrs. E. W. Darcus; 2, W. B. Gilman; I. W. Stephenson.

Northern Spy—5 entries—1, F. C. & H. G. Smith; 2, Mrs. E. W. Darcus; 3, B. F. Peters.

Any other Variety—4 entries—1, F. C. & H. G. Smith; 2, Thos. A. Clark; 3, R. E. Floyd.

Best 5 baskets, 1 variety—9 entries—1, Mrs. E. W. Darcus; St. John Valley Nurseries; J. W. Clark; N. B. & B. Col. Co.; F. C. & H. G. Smith.

Class XII.—Single Specimen

McIntosh—7 entries—1 Mrs. E. W. Darcus; 2, F. A. Hubbard & Son; W. B. Gilman.

Fameuse—7 entries—F. A. Hubbard & Son; 2, W. B. Gilman; 3, N. B. & B. Col. Co.

Wealthy—7 entries—1, Mrs. E. W. Darcus; 2, A. R. Gorham; 3, Thos. A. Clarke.

Dudley—8 entries—1, F. C. & H. G. Smith; 2, Mrs. E. W. Darcus; 3, W. B. Gilman.

Bishop Pippin—5 entries—1, Mrs. E. W. Darcus; 2, F. C. & H. G. Smith; 3, B. F. Peters.

Alexander—10 entries—1, Mrs. E. W. Darcus; 2, W. B. Gilman; 3, Thos. A. Clarke.

Class XIV.

Best box any variety, Sweepstake.—11 entries—1, Mrs. E. W. Darcus.

Class XV.

Advertising Booth Exhibit of Apples—10 entries—1, B. F. Peters; Mrs. E. W. Darcus; 3, W. P. & F. C. Fox; 4, W. B. Gilman; 5, S. John Valley Nurseries; 6, F. A. Hubbard & Son; 7, A. R. Gorham; 8, Harry Orchard.

Specials—Best barrel of Apples A. H. Wetmore—

1, F. G. & H. G. Smith; 2, A. R. Gorham.

St. John Board of Trade prizes for best 6 boxes of dessert apples—1, W.

(Continued on page 73)

KENT FLOUR IS SOME FLOUR
HELLO!
Send me my usual sack of KENT Flour, will you?
No Sir!—KENT or nothing. I have used no other for ten years.
Telephone to-day for
KENT FLOUR
There's a treat waiting for you
ORDER BY THE BAG OR BARREL
2093

STORING APPLES TO PRESERVE THEM FOR WINTER USE

Many farmers have more or less difficulty in keeping apples, so that they will continue to be sound and palatable for any considerable length of time.

Everyone knows that there is a great difference in the keeping qualities of the various kinds of apples. This splendid fruit, like most good things, "has its day and passes away," but, while in a general sense this is true at the same time the life of good qualities of any variety of fruit may be prolonged for many days, weeks, or even months, according to the nature of the fruit and the methods of preservation. However, there is a limit to the profitable practise of extending the usefulness of any variety beyond its natural time, and especially is this true of the earlier varieties. Evidently nature intends them to last only for a short time, for they are soon followed by other varieties, and these again by others, until the end of the season, when firmer, naturally longer keeping varieties are produced. Since these are the last of the season, and with no more to follow, our greatest endeavor to prolong the usefulness should be with this class.

It is always desirable, as far as possible, to use apples in their natural season. No matter what system is employed to prolong their usefulness they are never quite so good as just at the supreme moment, even though they may be useful for some time after this. For instance, the Christmas holiday season will take all the Fameuse that are produceed at good prices, but you can hardly give the variety away in March or April. The Transparent is delicious in the harvest time, but no one will want it a month later. The McIntosh Red is one of the best in the winter, but the not be greatly in demand in the spring and the Ben Davis, which no one would look at in January, will be relished in June and July.

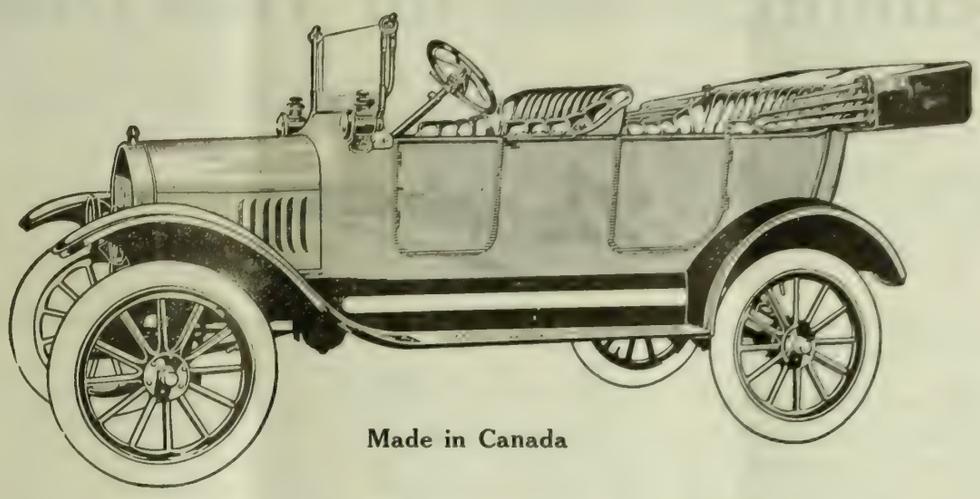
While the usefulness of an apple cannot be prolonged indefinitely, at the same time, by adopting the proper methods of preservation, overripeness, loss of flavor and decay can be delayed for quite a long time after the usual period of its passing. With this end in view, all bruised and broken specimens should be rejected. Defective apples will not keep by any method for very long, and no kind of defects are worse than bruises or broken skins. Prematurely ripe specimens should also be removed, as these will go before the general lot and cause trouble.

There is no general principal that will apply any and everywhere in the preservation of apples, and that is, to keep them cool. The lower the temperature, so long as they do not freeze, the better. There are several other importan matters, but this is an absolute essential. Another thing, they should be exposed to the air as little as possible. It is the practice of some to lay them singly on shelves. While by this method they do not necessarily decay, if kept cool, at the same time they will be damaged in texture by evaporation and injured in flavor by absorbing any undesirable flavors that may be present.

While it is practically impossible to preserve apples in their natural statc without changes, the process may be so retarded that they may be kept until other fruit begins to ripen, the following summer, which is as long as is desirable. The best way to accomplish this is to place them in as nearly an airtight box or barrel as can be secured and the lid or hed be closed up, which will prevent the air from evaporating them. If, in addition to this, they are individually wrapped in paper, it will be a still further precaution against decay, as experiments in this direction have shown. The paper has a good effect in keeping them from the air, preventing too close lying against one another, in case of decayed spots, in a measure prevents it from carrying infection to others and absorb moistures, keeping the fruit drier.

Apples should not be stored in a furnace room used for heating the dwelling, as it will be much too warm, inducing rapid ripening and early decay. Nor should they be placed in a cellar with many vegetables, unless as suggested previously, tthey be kept in air tight cases. Every cellar should be provided with a separate room shut off entirely from the other part so that the windows may be kept open when necessary and the temperature brought as near the freezing point as possible without injury.

In using from the barrel for home consumption only just what is needed for the present moment should be taken. Ripe apples placed on the table in a warm room soon loose that delicious flavor, cooling sensation and crisp texture which is so enjoyable in this excelsior fruit, when properly handled, but which rapidly becomes insipid and undesirable when exposed to unfavorable conditionns.



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THE old, reliable Ford Chassis---Stream line effect---crown fenders---tapered hood ---new radiator with increased cooling surface.

Chassis -	$450	Coupelet -	$695
Runabout -	475	Town Car -	780
Touring Car	495	Sedan - -	890

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RED ROSE TEA "is good tea"

Reinforcements for Your Dairy

HOW about that old separator that you have been thinking of discarding for the past one, two, three perhaps five years? Don't you think it is time to replace it with some modern cream separator machinery? The "Made in Canada"

Standard

cream separator will bring reinforcements that you have needed for some time in your dairy to enable you to make a "drive" for larger cream profits.

It will bring to you a skimming device that Government Dairy Schools have tested out and proven to skim so close that only one-tenth of a pound of butter fat is lost in every 100 lbs. of milk skimmed. The Ontario Government's Dairy School Bulletin No. 206 considers the loss of one-half pound of butter fat good skimming. And there are machines that lose even as much as a full pound and more in every one thousand pounds of milk skimmed. Dear knows how much an old obsolete machine that has been in use for years loses. Certainly enough cream if it were saved to soon pay for a modern Standard cream separator.

The Standard also will bring to your dairy a real self-oiling system. This machine runs in a bath of oil, the reservoir only requiring to be filled three or four times in a whole year. This saves oil, keeps the machine in perfect running order, and means less attention required.

It will bring, too, a wide open bowl and discs that can be cleaned thoroughly in a minute. It will bring safety, for the Standard's gearing is all enclosed.

"Made in Canada"

It will bring other things, too—easy running, inter changeable capacity, low supply can, instantaneous clutch, flexible neck bearing, etc., etc.

But these are all described in our latest cream separator catalog. Send us your name and address and we will mail you a copy by return post.

THE RENFREW MACHINERY CO., LIMITED,

Head Office and Works: RENFREW, ONT.

Agencies Almost Everywhere in Canada.

BRANCH OFFICE—SUSSEX, N. B.

DAIRYING.

MAKING PAYERS OUT OF SCRUBS BY FEEDING.... AND BREEDING

Cows of nondescript breeding and stunted in growth by scant and improper feeding can be made materially to increase in milk and butter fat production and to fill out and develop even after the age of maturity has been reached by proper feeding and attention. The second and third generation of the offspring from such cows and pure-bred bulls produce more than double the milk and butter fat of the original female foundation.

The scrubbiest kind of scrub cows were brought to the Iowa experiment station eight years ago, and they and their offspring have been under test and observation ever since to see just what correct care and feeding will do for them, and better breeding for the offspring. While not completed, the work produced valuable data to substantiate the above statement which hithero usually have been stated and generally accepted, but which lacked practical demonstration. Dairymen who have wished to build up grade herds have had no way of knowing their chances of success. Nor how long it would take to bring their herds to profitable production. They have not doubted the possibility of increasing milk yield by more liberal feeding, better housing and the use of pure-bred bulls but the big question has been, will it pay? The affirmative answer offered by the Iowa station is most comprehensive.

One scrub cow made an increas of over 102 p. c. in milk and over 86 p. c. in butter fat during her third year at the college dairy farm at Ames. A two-year-old Guernsey heifer made 131 p. c. more butter fat than the average record of her scrub dam under identical conditions. These are but two of the more outstanding results recorded to date.

The work was begun in 1907, when H. G. Van Pelt purchased 13 scrub cows and a nondescript bull among the back-country farms of Arkansas and brought them to Ames. They were thin in flesh, shaggy-coated and produced hardly enough milk to nourish the calves. Not a pound of corn nor a mouthful of silage had they ever tasted. Pure bred bulls were unknown in the community from which they came. They were about as poor examples of dairy type as could be obtained.

At the college farm they were given good care and management and were introduced to balanced rations, production records nd other modern improvements. They received their first taste of corn and ate their fill of good alfalfa hay. They were sheltered in a barn which was superior to the homes of some of their former owners.

They were mated with the pure-bred bulls at the dairy farm, and in the course of time their daughters were bred to pure-bulls.

The four-year old scrub cow mentioned above during her first year at the college farm produced 2742 pounds milk and 131 pounds butter fat. After three years of good treatment she produced 5556 pounds milk and 245 pounds butter fat, or an increase of 102 p. c. and 86 p. c. respectively. This was above the average rate of improvement, but in practically every case there was a marked increase in production.

The cows which were already aged at the time of purchase did not show a great deal of improvement after their first year, but it is certain that their performances were a considerable gain over their records before coming to the college farm. It is also of interest to note that the persisency of their output for a long number of years compares very favorably with that of the purebred cattle at the college. These figures show the latent productive possibilities of grade cows on our farms. Probably tthe most significant results of the experiment were the records made by the heifers sired by the college's pure bred bulls. On the scrub cows Holstein, Guernsey, Jersey, and later, Ayrshire bulls were used. These were not high-priced bulls beyond the means of the farmer, but were of good dairy breeding. The fact that many of the heifers have not as yet reached their prime prevents a fair comparison in some cases, for they undoubtedly will show continued improvement up to the years of their greatest production.

Some exceptionally noteworthy records have already been made by these half the threequarter grades. The greatest increase in production shown by any of the first generation grades is that of the Guernsey heifer noted in a preceding paragraph. As a two-year-old she produced 3451 pounds or 131 p. c. more milk and 179 pounds or 1136 p. c. more butter fat than the average record of her scrub dam. In this year she also made an increased profit over the best record of her dam of $24.48.

A Holstein grade of the first cross made 101 p. c. more milk and 53 p. c. more fat than the best record of her dam. Only one first generation Jersey grade has freshened up to the present time, and her average record at 2 1-2 years of age is 205 pounds or 20 p. c. more butter fat than was produced by her scrub dam at seven years old.

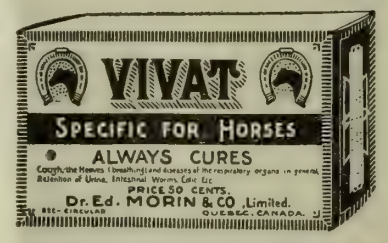
Improving the Young Stuff

The first generation grades are without exception much better in dairy conformation than were their dams, and this characteristic is still more marked in the second generation. There is a great improvement in constitution, capacity, mammary development, straightness of top line, quality and dairy type in every case except where the sire proved impotent.

In the Holstein cross, the breed markings did not show up particularly well in the first generation, but the heifers having three-quarters Holstein blood show the characteristic coloring and

The Specific for Diseases of Horses

"VIVAT"



is an active remedy in Powder form which will cure your horse of Coughs, Heaves, Colic and Worms.

"VIVAT" is also an invigorating tonic which gives strength and power to WORK and RACE HORSES.

Well known veterinarians have successfully used it in critical cases. A 50c box will be sufficent for six days' treatment.

ON SALE BY ALL PROGRESSIVE MERCHANTS

DR. ED. MORIN & CO., Limited, - - Quebec

Prize Butter Makers Use Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED 181

A druggist can obtain an imitation of MINARD'S LINIMENT from a Toronto house at a very low price, and hav : it labeled his own product.

This greasy imitation is the poorest one we have yet seen of the many that every Tom, Dick and Harry has tried to introduce.

Ask for MINARD'S and you will get it.

conformation of their sires. These second-generation heifers are in most instances animals of exceptionally good dairy type for grades and bear little resemblance to their lean, poorly kept granddams that were brought from Arkansas eight years ago.

The results bear directly on the plans of farmers entering the dairying field, or who wish to bring a low-producing herd to a degree of production where they will pay for the feed consumed. Complete results will help decide whether to "buy in" or "grow in," whether to purchase high-producing, pure-bred cattle or to deevelop a herd of good grades.

The first plan is, no doubt, excellent for a man who has considerable capital and skill as a breeder and who seeks his profits in registered cattle. For the farmer who intends to make his living from the products of his cows rather thna from their offspring is commended the method of building up a herd of good grade cattle. The principle initial investment, according to Mr.Kildee and Mr.McCandlish,who have charge of the experiment, should be a good dairy bull. The figures show what canbe done with the poorest of scrubs and a reasonable priced bull of good breeding. independent and improved methods of management and feeding.

The demonstration has proved that dairying with a grade herd can be made profitable. Use the foundation of the cows already on hand, or which can be picked up in the community and a good, dependable bull, use intellgent methods of selection, weed out the non-producers by means of a testing association, feed well. The farmer then need not hesitate to enter he dairy business, for he can develop a dividend-paying herd in a comparatively few years.

DAIRY BARN PLANS

The time has passed when any sort of a building will answer the purpose as a shelter for dairy cattle. Today the work of the farm is in such a large measure centered in the dairy barn that the far-sighted farmer sees to it that this place is both sanitary and convenient. The time has passed when the work around the stables is looked upon as a mere chore, a task to be added to the day's work after 10 or 12 hours have been put in in the field.

Today the farmer appreciates that just as much of his profit, in fact, in many cases more of his profit comes from the dairy barn than from any other form of farm work. The question is now of arranging the stables,of planning the equipment, of organizing the barn work in such a way that he may get the largest reurns from the money invested.

Furthermore, the dairy barn houses perhaps the most expensive and valuable part of the farm equipment. There is no other place where from profit producing standpoint so much wealth is centered in so small a space. The dairy cow represents the greatest source of revenue on many of the farms, and it is because of this that the dairy farmer appreciates her significance and realizes that she must have the best of care if she is to make the best of profits.

There are men who make a business of planning farm barns. They outline and schedule the various things that are to enter into the dairy barn construction just as carefully and just as systematically as they would make a blue print of a city hall, a court house or a capitol building. The farmer's barn is no longer a structure that is started with a feew posts, sills and rafters. It is a barn that is complete in the mind of the architect and also of the owner before ever a board is bought or a nail driven.

Had such a thing as this been broached 25 years ago the man guilty of the misdemeanor would have been considered the laughing stock of the community. Why spend the moneny necessary for blue prints or plans for the service of an architect in making just an ordinary farm barn? There is no possible excuse for such an unwise expenditure or such foolish extravagance.

Today things are different. The dairy barn must be built so that when it is completed there will be no weak point, there will be no place that might be changed to the advantage of the work that is being carried on in the handling of farm stock.

The present systems of building are perhaps a little more permanent than when lumber was used exclusiveely, therefore it is especially important that the barn be arranged right before it is started. These few suggestions mark not only a change that has been made in the progress of barn building, but also the great steps in advancement that have been taken in farming generally.

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If you suffer from bleeding, itching blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers. Box P. 309 Windsor, Ont.

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BOOK ON DOG DISEASES And How to Feed

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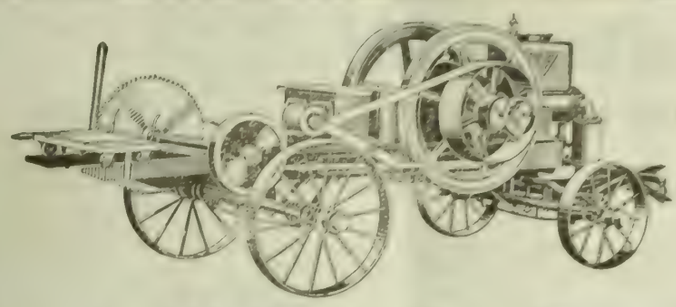
H. CLAY GLOVER CO., Inc. 118 West 31st Street, New York

FLUSHING IN EWES

The propagandists of cheap mutton and wool have fallen by the wayside. A shortage of wool and mutton exists which is not likely to be relieveed in many years. It therefore behoves those who own flocks of ewes to handle them so as to obtain maximum results, fr the harvest will be rich, bountiful and enduring.

It is a recognizeed fact that the condition of the ewe flock during breed ing time is largely responsible for controlling the fertility. The condition of the ewes is a far more important factor than that of the ram. Of course the number of ewes that one ram can serve successfully must obviously depend upon his vigor. Flushing is the term applied to the practice of stimulating the organs of reproduction by supplying additional grain or more succulent pasture to the ewes. An insufficency of feed retards the breeding season, and reduces the fertility.

To flush ewes, Professor Wm. Hislop of the Experiment Station at Pullman, recommends that they be placed in a succulent pasture and fed one-half to one pound per day of two parts oats and one part bran for ten days preious to turning the ram in with them. It is equally important that the ewes be not over fat at this ime. All the wool about the dock of the ewes should be trimmed away beffre mating. As a means of distinguishing the ewes that have been bred, paint the ram on the brisket with some color which will leave a mark on the wool of the ewe. At the end of 21 days the ram should manner the owner is enabled to tell whether or not the ewes are "returning."



Look Well to the Power End of Your Sawing Rig

No part of a wood sawing rig should be more carefully scrutinized than the engine. It is the engine you must rely on to keep the outfit working.

Cold weather does not affect the steady, smooth running qualities of the Alpha. This is a great advantage as most of your wood sawing will be done during cold weather.

The carburetor and ignition system are entirely free from complicated parts. When you start your Alpha in the morning you can rely on it plugging away steadily all day. There is nothing to fuss or tinker with—not even batteries. The perfect control of the sensitive Alpha governor instantly regulates the engine to the varying loads that are always encountered in sawing wood. This feature and the great reserve power of the engine will keep the saw going steadily through big or little wood.

The above illustration shows one of our special steel frame mounted sawing outfits. Let us know what your requirements are and we will be glad to quote you prices and send description of a rig such as you wish.

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MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

STERILITY IN COW

I have a cow four years old, which freshened one year ago last april, and has been milking regularly since. I have breed three times, and still there is no sign of her being in calf. Can you advise me what to do?

R. M. R.

Answer:—About a day before the cow is expected to be in heat, take an ordinary yeast cake and soften it with a little warm water. Let this stand in a fairly warm place for 10 or 12 hours. Then add 1 pint of lukewarm water which has been recently boiled, and let it stand again for 10 or 12 hours more. Inject this into the vagina as soon as she comes in heat and breed her just as she is going out of it.

Occasionally the womb of a cow remains closed when in heat, which if it does she cannot get in calf. The remedy is to insert the hand into the vigina, after oiling the hand and arm with sweet oil, and open the womb with the finger. Have the finger nails cut close, so as not to injure the parts. The work should be done carefully, and made large enough for the two front fingers to enter.

In an hour after this operation. breed her.

Unless there is a diseased condition of the womb present, the trouble should be overcome by the use of one or the other f these remedies.

Had Severe Cold
ON HER LUNGS.

RAISED PHLEGM AND BLOOD.

Never neglect what at first seems to be but a slight cold. You think perhaps you are strong enough to fight it off, but colds are not so easily fought off in this northern climate, and if they are not attended to at once will sooner or later develop into some serious lung trouble such as bronchitis, pneumonia, and perhaps that dreadful disease, consumption.

Miss Kasye McDonald, Sydney Mines, N.S., writes: "Last winter I contracted a severe cold, and it settled on my lungs. I would cough and raise phlegm and blood. I had the cough for a month, and had medicine from the doctor, but it did not seem to do me any good. I really thought I had consumption.

My friends advised me to use Dr. Wood's Norway Pine Syrup, which I did, and it gave me great relief. I am very glad I used 'Dr. Wood's,' and would recommend it to every one."

You can procure Dr. Wood's Norway Pine Syrup from any druggist or dealer, but be sure and get "Dr. Wood's," when you ask for it as there are a number of imitations on the market, which some dealers may try to palm off on you as the genuine.

See that it is put up in a yellow wrapper; three pine trees is the trade mark; price 25c. and 50c.

Manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

LIVE STOCK.

THE PROFIT IN SHEEP

Many people do not understand the economic position of sheep sufficiently well to make the most out of ttheir farms. Sheep are ruminants, and especially well adopted to consuming roughages. They may be wintered, and wintered well, upon roughages alone. To be sure these must be protein roughages, such as clover, alfalfa, or pea hay, but many times there are waste feeds of this character on the farm that can be turned into cash. I have thus used to good advantage pea straw out of which the peas had been threshed. The crop thus yielded double returns, one for seed and another for the straw.

Growing wool requires a variety and a considerable quantity of mineral substances. Weeds are rich in minerals, and consequently much relished by sheep. There is nothing else quite so good for sheep as weeds for a part of their ration. The farmer who has weedy hay or weeds on his farm can oftenturn those to profit by the sheep route.

The shelter and labor required for sheep are less than for any other class of farm animals. The protection from cold afforded by the wool makes warmth in the sheepshed an unnecessary consideration. The sheep is economical in its water consumption. It passes a manure that is relatively dry and does not need much bedding. One or two cleanings of the sheep shed per season are sufficient. Feeding and watering are done for groups and so can be accomplished with a minimum of labor. If sheep are properly bred and fed, the lambs come strong and can largely take care of themselves, so that not much extra attention is necessary at lambing time.

In the sale of sheeep and their products a dual-purpose idea is involved. Horses are raised for the work they furnish, dairy cows for the milk they give, beef cattle for the meet one can get from them,and hogs for the amount of carcass they will yield, but with sheep the carcass and the wool are equally important. The lamb, however, is the most valuable product of the sheep industry.

With a good farm flock the lamb dropped in the spring will within 6 months equal the live weight of the original flock. This can be done on pasture, the cheapest or all feeds, and with the minimum of labor. This cannot be accomplished with any other roughage-consuming animals of the farm. When one stops to consider that the winer feed at least can be taken care of from the sale of wool, the source of profit in sheep can readily be accounted for.

With hothouse lambs the possible profit in sheep is still greater. Sush lambs can within 3 months be made to equal two-thirds of the live weight of the breeding dams with the consumption of a little extra feec Furthermore, the price at which lamps like this sell is greater than can be obtained for any other animals of the farm. These often outsell poultry. Taking all things into consideration, a farm flock of sheep properly managed is one of the most profitable investments a farmer has.

Wm. Dietrich in Breeders Gazette

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1-$2-$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day.
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

SHEEP MANURE VALUABLE

Sme time last winter a man from Maine wanted me to tell how I would manage to make 50 or 60 loads of manure from 75 sheep in a year. The most of the farmers around here who keep sheep let them run in the pasture in the fall until the snow gets so deep that they cannot paw through to the ground. Thenn getting to the barn they have the corner of a wagon house or manure shed for shelter with no bedding, are fed in the corner of fences or buildings. If they have racks they are outdoors. The sheep spend a larger part of their time out in the yard under these conditions. They do not save much manure.

I am no advocate of the open shed theory for sheep. My barn is double boarded and sealed with matched boards inside. There are windows and ventilators that are opeen in common winter weather and the door is open into a yard when it does not storm. But when the themometer is 20 below and the wind blows a gale the sheep seem to enjoy having the doors and windows shut.

My feed racks are in this barn. I bed thesheep with oats straw butts that come from the racks. In regard to the amount used you will soon learn by experience how much. If you use too much the manure will heat, if not enough the pen will be wet. I keep this pen comfortable enough so that the sheep spend most of their time inside. Every sheep will go out into the yard many times in a day, but they will eat and lie in the barn and when a sheep gets up the first thing is to relieve the bladder and bowels. so the manure is all in the barn. Quite a large part of the fertilizer from a sheep is the liquid.

My sheep begin to come to the barn nights in October when the fall storms come on. In fact, they come to the barn nights all summer when there are big storms. I have a dog-proof yard near my pasture bars where my sheep stay nights. When I go after my cows at night I shut them in and let them out in the morning when I turn my cows out. When there is a storm coming I find my sheep waiting at the bars that lead to the barn Other times they will be in and around the yard in the pasture. I have read that cattle on the plains will become restless and stampede before a storm Sheep certainly know when there is a storm coming.

In making this estimate I do not figure on manure that I made through the summer with the bedding I use in the winter. The manure soon gets to be from 1 to 2 feet deep in the pens and I have to draw some out or bump my head on the outlays. What I draw out through the winter I put in a pile in the field and mix it with manure from the cow barn at the rate of one load of sheep manure to two loads of cow manure. This keeps it from heating and makes a fine combination for any kind of crop, particularly for corn.

What I have left in the pen in the spring I use for potatoes. Now that potash is not to be had there is notthing that takes the place of sheep manure for potatoes.

There is a man in this town who keeps a pair of horses, onee eor two cows, the rest of his stock being sheep, and he has been for years. He buys practically no fertilizer and but a very little grain. His farm is always in a high state of cuultivation, cuts two crops a year. But I will admit that this is an exceptional case. He has around 15 acres of very heavy natural grass land with a large amount of pasture that runs back on the hills. Practically all the dairy farmers around here buy immense amounts of commercial fertilizer and draw home a two-horse load of western grain every time theey go to a village. They should raise sheep.

A. L, Harlow in N. E. Homestead

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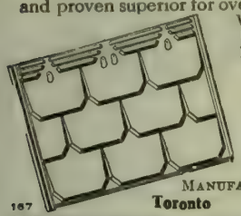

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IT PAYS TO TEST.

As to whether or not official testing pays, there should be no question. If it don't pay, then there must be something wrong with the owner—not the cow, for she is proving she is all right—not the system, for it is practically right in every way.

Why keep registered cattle if they aren't going to be given a chance to demonstrate their worth? Just as well keep grades, or any old thing. Make the registration count for something more than just the pedigree, and then there will b no chance for outsiders to say that registered cattle are no better than grades.

It pays to test. No puestion about it and here are a few reasons plainly told by a well known Jersey breeder.

"To my mind, Register of Merit testing helps in very many ways. First of all, it gives the owner and manager of the herd an absolute accurate recrd of what the cows are capable of, and it gives it in a more certain and authoritative manner than by private testing. Then it stimulates greatly, I believe, he interest of the herdsmen and milkers, which is a very appreciable advantage, also s n incentive to improvement nnd advancement in breeding its effect is most benefical. After all, the value of a cow is in her ability to produce and reproduce, and accurate testing goes far in measuring this value.

"As far as theactual and immediate financial value of testing goes,I think it pays and pays well. I know it does my own case and believe it will pay practically in all cases. Nearly all breeders wish to sell a certain number of bull calves and I find that buyers are fast becoming very careful in scrutinizing the record of the dam, in fact, I believe it will very soon be almost impossible to sell a bull calf from any but tested cows and it is real Register of Merit records they will want, not private tests."

WAS THE CREAMERYMAN DISHONEST

"Why is it one of my cows only tested two per cent according to the creameryman's test, yet she raises me the best, fattest, and sleekest calves of any cow I've got?" asked a dairyman at a recent dair meeting in northern Indiana.

"I see nothing wrong in that coincidence," repled the speaker who had been explaining why cream tests vary, and had the statement that the dishonest creameryman was an exception rather than the rule.

The idea that the richer the milk, the better it is for raising calves, and that skim milk is little better than water is a very correct yet common conception. A great many valuable calves have been lost with the scours because they were fed milk that was ttoo rich in fat. The calf only needs about two per cent of fat in the milk or in its ration to .meet its requirements. The surplus fat is not used by the calf's system, but by a digestional process is made into a kind of soap, being similar to the process our grandmothers followed in making home-made soap. Many progressive dairymen throughout the state who are compelled to raise their calves on whole milk are very careful to furnish the calves milk from their cows producing the thinnest milk. They are much more successful by this method than by any other.

The most economical feed for calves is skimmilk, with a grain mixture of corn and coats, allowing access to alfolfa or clover hay. M any have the impression that skimmilk is little, if any, better than water, but the truth of the matter shows that skimmilk contains all of the original food nutrients which promote growth and vigor. All hat separation has removed out of the whole milk is the butterfat. as shown in the following analysis The same amount of fat that is necessary be supplied by a small amount of the ground corn and oats. These feeds have given not only better but more economical results than any of the other grains in the various feeding matrials in the past.

W. O. WILLS

In Hoards Dairyman.

How many hairs has a Bear ?

We doubt if the average person in Canada who sees [illegible] has any real idea of their number, their length, their fineness and warmth. But it is [illegible] of the great importance of hairs per square inch to produce fine warmth and softness.

The actual number of hairs on any given area can be actually determined by mathematics and an abundance of patience.

We have cut a piece out of a bear's hide, one inch square in size—have sealed and deposited it with the bank and are giving

$300.00 IN PRIZES

to the 64 persons who are nearest correct in their estimate of the actual number of hairs on that one square inch of black bear skin.

This contest is entirely free to every one who complies with the conditions, and we might frankly state that the sole object of this contest is to familiarize as many people in Canada as possible with the wonderful bargains they can secure in stylish guaranteed Furs and Fur garments, through Hallam's system of dealing direct "From Trapper to Wearer"

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on the back cover of which are full particulars of this Zoological contest.

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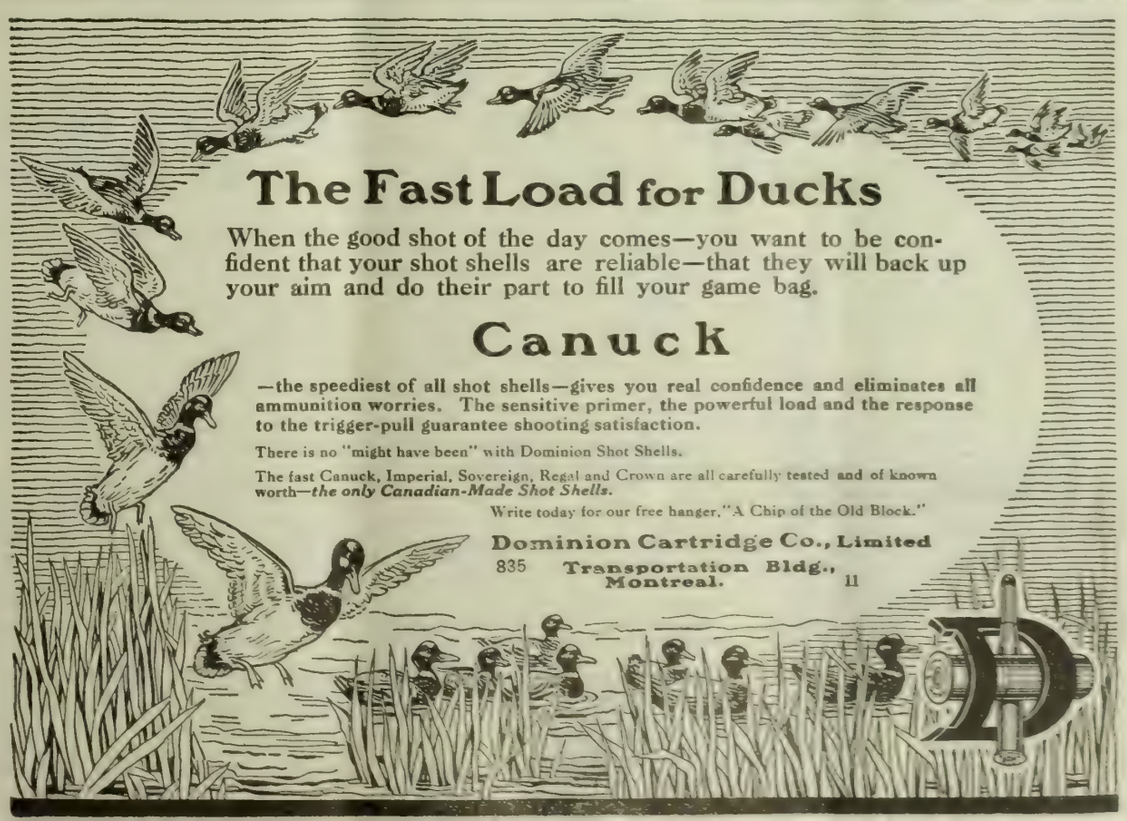

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THE HORSE

BREED IDEALS AND SOUNDNESS

In the development of each breed of draft horses the direction of selection and improvement has been governed by definite ideals. Sometimes the ideal has been realized through the constructive work of a single breeder or group of breeders, as, for example, in the influence of M. Jules Hazard on the modern Belgian. Sometimes the ideal has been the outgrowth of the minds of breeders in general, as in the Clydesdales or Suffolk, where no man towers preeminently as a constrctive breed builder and the small farmer vies with the great export producer or stallion owner as a breeder of quality animals. Again the ideal may be the result of a particular market demand, as in the case of the American demand for Percherons.

The report of the ten states publishing the nature of the unsoundness in their public service stallions offer an opportunity for a study of the effectiveness of each of these methods. Of course, in the final analysis, each breed is being produced ultimately to meet market demand, but some breeders have held more fixedly to an ideal of what futur market demand will be, while others have catered to market vagaries and the extrems in popular favor. On the other hand, the breeeds that have made the greatest effort to respond to export desires have had a breederswhose steadfast purpose has carried their studs constantly forward, as, for example, when market demand veered from the dumpling "Dutchmans" type, to the stretchier, heavier-framed modern draft. Hence no breed ideal can be classed purely as any of the three types mentioned, but ach is only predominantly of one group.

The ultimate function of the draft horse is draft power. The strength of the pull exerted depends on the muscle power, the bone leverage, and the weight of the horse. In addition his efficiency depends in part on the rate at which he can move loads and, for farm work, his general activity. The lowest blocky "Dutchman's" type that first found popular favor in America represented the ultimate in leverage, muscle power, and weight, in proportion to its bony framework. On the other hand this type of animal lacked in activity and ability to move loads rapidly. The correction of these defects developed the taller, stretchier drafter whose type in part corresponds to that product of constructive American breeding, the Standardbred. Of the modern breeds the Percheron, French Draft, Belgian and Suffolk tend toward the blockier ideal, while the Shire and Clydesdale approch the ideal of the active animal.

As the relative proportions of the different kinds of unsoundness indicate where a breed ideal fails under service , and the absence of particular unsoundness reveals the strong points, the following table, based on the specified unsoundness in the 10 stallion board reports is of interest. Since infectious diseases and most anatomical defects are not the result of severe work but are due to inborn causes, they are ommited from the table. Futhermore, no unsoundnesses are reported in the 31 Suffolks so they are also ommited.

Percentage of each unsoundness on basis of total specified unsoundness in each breed.

Breed	Percheron	Belgian	French Draft	Shire	Clydesdale
Sidebone	33.1	45.1	30.4	27.6	40.0
Bone spavin	9.7	6.1	10.9	6.7	0.0
Ringbone	2.7	4.9	6 5	0.0	0.0
Curb	1.3	1.2	0.0	0.0	0.0
Thick wind	18.7	18 3	13.0	27.6	10.0
Heaves	0.0	1.2	0.0	3.5	20.0
Blindness	9.0	8.6	19.6	13 8	10.0
Bog spavin	8.4	4.9	10.9	6.9	0.0
Thoroughpin	0.3	1.2	0.0	0.0	0.0
Springhalt	2.0	0.0	2.2	3.5	0.0
Chorea	2.0	1.2	0.0	0.0	0.0
Navicular disease	0.3	0.0	0.0	0.0	0.0
Other specified unsoundness	12.5	7.3	6.5	10.4	20.0
Actual No.of specified unsoundness	299	82	46	29	10
Number of each breed	11,193	2,798	1,540	1,263	782
Percent of breed specified unsoundness	2.67	2.93	2.92	2.29	1.27

In examining the preceding table one must not regard the percentage between the different breeds on a particular unsoundness as indicative of which breed is most liable to that unsoundness. The percentage here simply indicates within each breed the relative probability of a given probability of a given unsoundness appearing, providing the breed becomes unsound at all. The opportunity to compare the different breeds on particular unsoundnesses was afforded in my article on "Breed Predispositions to Unsoundness."

The Clydesdale and the Suffolk have been subjected by their breeders to selection toward a common ideal. Apparently this kind of breed building is most effective for the production of animals to withstand service, as there are fewer weak links in the chain of draft power in these two breed than in all others. The Suffolk shows weakness at no points so far as service is concerned, although its numbers are too small to be significant. According to the table the Clydesdale exhibits weakness at 4 points, the Shire at 7, the French draft at 7, the Belgian at 10, and the Percheron at 11. Of course, these points have no particular significance when only a single case occurs, hence it is important to know in how many significant points the breeds fall short. On this basis the weak points in the Percheron are the feet, the hocks, the wind and the eyes, with a significant deficiency in quality as evidenced by bog spavins and thoroughpins combined. The Belgian evinces trouble of the same nature, as does the French draft with bad ankles added. The shire shows less tendency to puff joints, while the Clydesdale has a clean bill of health both in strength of hocks and in quality.

If one point stands out clearly here, it is that the fussiness of the Clydesdale breeder in regard to feet, legs, and action has its reward. While of the specified unsounndness in the Clydesdale, sidebone is the most common,yet it is really even less frequent in this breed than in any other major breed, only one animal out of every 158. This is meerely another means of emphasizing the thoroughness with which a general breeder's ideal can improve a breed.

Perhaps the most significant fact of all is that the real weak spot in all of the draft breeds is in the foot. If a draft horse is to become unsound the chances are from 1 out of 2.5 to 1 out of 4 that the foot will go first, and sidebones be produceed. The next most, valuable point is the wind when all breeds are considered, but, the chances range from 1 out of 3 to 1 out of 8. After that the eyes seem weakest, the probability being from 1 out of 5 to 1 out of 12.

It seems difficult to understand why the heavy horse, whose foot never receives more than two-thirds of the jar which the racers foot gets, fails so signally at this point. That it is not related to breed peculiarity in shape is evidenced by its frequency in each breed, nor does texture of the horny wall seem to be related to it. One can appreciate the difficulties in the wind, the thick wind of the continental breeds and the Shire doubtless being related to overfatness while the heaves of the Clydesdale may be related to its less capacious punch and its greater activity, which might produce pressure on the lung nerves with the resultant paralysis. The blindness appareently is more or less sporadic. No blindness due to recurrent ophthalmia (moon-blindness) is included, hence one may consider the blindness to be the result of hereditary causes more or less independent of the other conditions of the breed or body.

It is easy enough for anyone who is a breed partisan to find food for his partisanship in the figures that have appeared in this article and in the four articles preceding, but two things stand out preeminently, even to the impartial observer, immense popularity of the Percheron in the leading horse producing states of America, and the remarkable efficiency of the Scotch method of horse breeding, which has produced the Clydesdale, a breed so free of unsoundness and so durable in quality. Furthermore every evidence should demand further inquiry into the Suffolks.

Edward N. Wentworth.
Kansas Agricultural College.

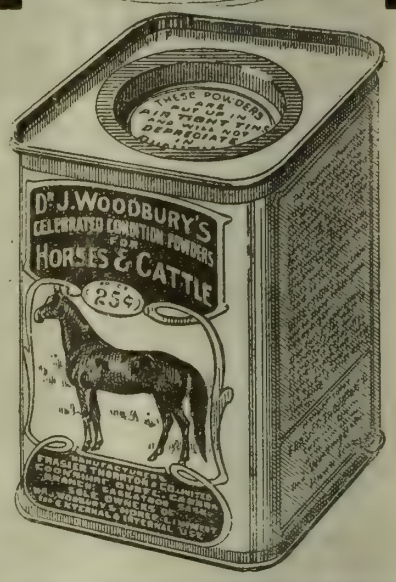
HOW TO MANAGE A RESTLESS HORSE.

A correspondent asks how to break a horse from the habit of pawing in the stable and in front of the hitching post.

Secure a piece of wood a foot in length and 2 to 3 inches square. To the centre of this securely fasten a strap about 15 inches in length. Buckle this device about the knee of one of the horse's front legs permitting the bock to hang down free about 10 inches below the knee. When the horse paws, this piece of timberdangles around the animals legs and strikes against them in propertion to the fierceness of his pawing. This device must be applied repeatedly until the bad habit is broken. When first putting it on care must be exercised not to shy the animal.

To make a horse stand while getting into the rig, first make the horse understand and obey the word "whoa."

(Continued on page 72)



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There is nothing more discouraging than Nervous Prostration. Because of the exhausted condition of the nervous system, weakness and helplessness take possession of the body. The faculties of the mind as well as those of the body are affected and hope and courage disappear.

The patient, often appearing well, gets little sympathy, and few doctors understand diseases of the nerves well enough to treat nervous prostration intelligently. Dr. Chase's Nerve Food is founded on the prescription of a great nerve specialist, and hence its wonderful success in curing ailments of this nature.

Mrs. Edith May Williams, Tillsonburg, Ont., R. R. 3, writes: "I cannot speak too highly of Dr. Chase's Nerve Food. I suffered for years with my nerves, and at one time I was confined to my bed with nervous prostration for several weeks. I cannot just explain my feelings, but I was weak and helpless and so discouraged and despondent that I thought I would lose my mind. I doctored with several doctors and received but little benefit. At last I became very much discouraged and thought I would never get better. A friend advised me to try Dr. Chase's Nerve Food, and before I had finished the first box I knew that it was helping me. It took several boxes of the Nerve Food to make me well and I can truly say that it is a wonderful builder-up of the nervous system."

It is only wise to prevent such dreaded diseases as Nervous Prostration, Paralysis and Locomotor Ataxia by keeping the nervous system in good condition at all times. When you cannot sleep well, have headaches and indigestion, be warned of approaching dangers and restore the nervous system by using Dr. Chase's Nerve Food. 50 cents a box, all dealers or Edmanson, Bates & Company, Limited, Toronto.

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WAS CURED BY MILBURN'S HEART AND NERVE PILLS.

Mrs. J. S. Nicholls, Listowel, Ont., writes: "I was weak and run down, my heart would palpitate, and I would take weak and dizzy spells. A friend advised me to take your Heart and Nerve Pills, so I started at once, and found that I felt much stronger, and my heart was ever so much better in a short time. I cannot praise your medicine too highly for it has done me a world of good. My husband has also been bothered with heart trouble ever since childhood, and finds quick relief by using your valuable pills."

Milburn's Heart and Nerve Pills have been on the market for the past twenty-five years, and are universally known as the very best remedy for all troubles arising from the heart or nerves.

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

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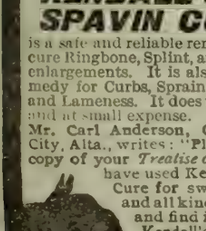
We offer free this book that tells you about many of the diseases afflicting horses and how to treat them.

KENDALL'S SPAVIN CURE

is a safe and reliable remedy. It will cure Ringbone, Splint, and other bony enlargements. It is also a reliable remedy for Curbs, Sprains, Bruises, Cuts and Lameness. It does the work safely and at small expense.

Mr. Carl Anderson, Grand Prairie City, Alta., writes: "Please send me a copy of your *Treatise on the Horse*. I have used Kendall's Spavin Cure for swellings, galls, and all kinds of lameness, and find it a success."

Kendall's Spavin Cure is sold at a uniform price of $1.00 a bottle, 6 for $5.00. If you cannot get it or our free book at your local druggist's write us



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POULTRY.

HENS CHOOSE OPEN-AIR HOUSE

By remodeling our henhouse several years ago, our winter egg production has been merely doubled. Air and sunshine were admitted and the hens were as happy as when they were scratching in the garden, or catching grasshoppers, consequently the egg basket was well filled.

The first time I ever read of an open air henhouse, I decided it was as nearly perfect as it could be. Many times I have been in the henhouse in the winter and noticed the windows heavily coated with frost, due to the excessive moisture. The hens had a dejected appearance, and were huddled in a corner where a ray o fsunshine filtered through. I suggested to my father than we change it into an open-air house, but he laughed and said he thought it was open-air enough, that the hens would freeze if the windows were removed.

I did not say any more about it until the next summer. After having, I was not working, so I thought it would be a good time to do the job. My father's consent was won because his mind had been changed accidentally in regard to the matter. This is how it happened. One day about the middle of February some of the hens were in an open shed, a heavy snowstorm came on, preventing them from going back to the henhouse. In the morning finding them scratching in some litter that was in the sunshine, he could not help noticing the difference, when feeding the others, in their appearance.

The night had been one of the coldest of the year, so he decided to let them stay there and try out the open-air idea to the limit. None of the hens had laid any eggs during the winter, so he thought they could do no worse there. I can imagine his surprise on looking into the box he had put out for a nest, and seeing a nice brown egg, a month before those in the henhouse had laid an egg.

HOW THE JOB WAS DONE

I removed the window sashes and hinged on frames covered with canvas. These could be easily raised and hooked to the top of the house. A roosting platform was made3feet above the floor, about 5 feet wide and 6 feet long. This was boarded on the sides tightly, so as to prevent drafts on the fowls when on the roost. A curain similar to those in the windows was constructed toclose the closet at night.

Two ventilators were made just above the curtain to provide air when too warm, or too close. The walls were made double annd stuffed with hay. In the room itself drafts were prevented by having all the walls tight except the front, and the bulkhead under the openings was made 3 1-2 feet high, to prevent the wind blowing directly on the hens when working on the floor.

Litter a half foot deep was kept on the floor all the time, in which all grain was thrown so as to make the hens keep at work. There has not been a sick hen in this house for the last two winters, and we have had eggs every day. Twenty-two hens were kept in this house the first winter, and each hen averaged nine eggs during the month of January, about the same iu February, and 12 in March.

These hens had no extra care, they had no warm water, no warm mashes were fed. Dry mash, composed of wheat bran, corn meal, cottonseed meal, middlings and ground oats was kept before them all the time, as was water, oyster shells, grit and charcoal. Oats, wheat, barley and crackeed corn were fed three times a day. Meat and bone were fed two or three times a week. For green food, turnips, beets and cabbage were fed daily, hung on a nail to make the hens exercise. We can truthfully say that this open-air henhouse has proved entirely satisfactory.

E. D. OBER

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The Worlds Greatest and Surest
Veterinary Remedy
HAS IMITATORS BUT No COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Firing. Invaluable as a CURE for
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PINK EYE,
SWEENY,
BONY TUMORS,
LAMENESS FROM SPAVIN,
QUARTER CRACKS,
SCRATCHES,
POLL EVIL,
PARASITES.
REMOVES
BUNCHES or BLEMISHES,
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CAPPED HOCK,
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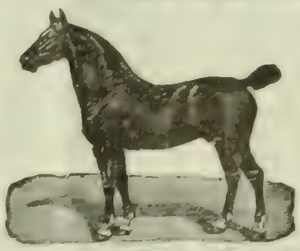

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(Continued on page 72)

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The time to prepare for winter eggs is during October, November and December. Have your hens get over the moulting season early and enter the winter months healthy and vigorous. This you can do by feeding **Royal Purple Poultry Specific**, put up in four sizes, viz.: 25c, 50c, $1.50 and $5.00.

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FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

SNAPPING TURTLE SOUP COMPANY

Melly had passed the age when a boy habitually accumulates frogs, garter snakes, young squirrels annd other possible and impossible pets. Therefore Miss Kate Derby, as she watched him from a rear window of the kitchen one morning late in the spring, was greatly puzzled by his action.

He had put a large wooden bucket, which had a board for a cover, into the angle between the carriage house and the barn. Into that bucket he seemed to be thrusting a number of small objects, which he was taking one by one, very gingerly, from his pockets. Apparently the objects were alive, for every time that Melly thrust one into the bucket he raised the cover and clapped it down with remarkable suddenness.

Miss Derby rapped sharpely on the window. Springing up, Melly glanced behind him with an air of alarm.

"What are you doing?" his aunt demanded.

'How you startled me! When you pound on the window like that, Aunt Kate, it always makes me think something has happened."

"Well, I dont know but something has happened. What have you got in that pail?".

"Oh, nothing much—just something I put in there from my pockets."

"What did you put in there? Can't you answer me without going all round Robin Hood's barn?"

"Ouch!" Melley cried, leaping into the air and clutching at one side of his coat. "Now, you've gone and stopped me, and the've got turned round so I can't get hold of their tails!"

"What have you got in your pocketts? I want you to answer me right off!"

Miss Kate came out upon the back porch and started down the steps. Holding his coat away from his body and watching the side pocket with one eye, Melly advanced to meet her.

"Why, it aint anything," he declared, "only some little things that Marty Blaisdell found and turned over to me! Can't you see the head of that one sticking out?"

A black pointed nose was thrust from the pocket and was weaving about in a snake-like mmanner.

"What is that—a snake?" Miss Kate cried.

"No, it ain't a snake! Don't you know a little snapping turtle when you see one?"

"My goodness! A boy of your age collecting mossback turtles! I thought you gave up that sort of thing three or four yeears ago."

"Well, this is different—this ain't play, this is business."

"Humph! Business! How many of those miserable things have you got?"

"Seventeen—unless one of 'em got away, I ain't sure yet, because you interrupted me. Marty Blaisdale found the eggs and raised 'em. He turned them over to me."

"Well, you didn't have to take them, did you?"

"Of course! I'm president, he's only secretary."

"President! President of what?"

"President if the Snapping Turtle Soup Company. We've organized it, and we've got to lay in a stock before we can have anything to sell."

"I declare Melancthon Derby, you've outdone yourself this time! This is the most foolish thing I ever knew even you to think of! Who on earth wants any snapping-turtle soup, I'd like to know."

"Why, everyone would," Melly declared with some heat, "if they only knew how good it is, and we've got out literature and tell 'em Haven't you read how rich people always have Other folks would like it if it only were within their means, and we intend to put it there."

"But that's sea turtle, it isn't these wretched mossbacks!"

"Well, what's the difference? Do you know, Aunt Kate, that there's seven different kinds of meat in a snapping turtle, most of it like veal? Why, it's a great deal better than any sea turtle, and we're going to prove in our circulars that its even better than diamond-back terrapin! Did you ever eat a turtle?"

"No, I never did, and I don't inteud to , either! What are youu going to do with those nasty things?"

"As soon as we can get the creek fenced in, we're going to put 'em there to grow."

"Fence in the creek! With what?"

"Why, we've got some old chicken fence, and so's Billy Jenkins! He's treasurer. We ain't going to fence it all in, we ain't got woven wire enough. After the company gets well established, though, I presume we,ll need a lot of creeks. You haven't any idea, Aunt Kate, how many snapping turtles there are in the country, all going to waste now. I wish you could see the folder Tim Mosher is getting up. He's our advertising manager. He's finding all about turtle soup, and has got a dozen receipts for making it, and he's going to write up the life history of the snapping turtle, too, so's to have a page or two of interesting reading."

Miss Kate gazed at Melly with a curious expression, in which strong disapproval of the boy's wild schemes mingled with a sort of dumb wonder at the fertility of his imagination.

"Where is the money coming from for these folders and other expenses?" she asked dryly.

Melly wriggled under her fixed gaze, "Billy could explain that better than I can. After we get stock of turtles, so's to have something to stand on, we're going to hold a directors' meeting and decide. Maybe we'll issue stock, or maybee we'll issue bonds. It dont make much differencee which, so long as we get money for working capital."

"No," his aunt agreed, "I don't think it'll make a whole lot of difference. How much do you reckon that these turtles you're going to stand on are worth."

Melly glanced sidewise at her, for her tone, to say the least, had been sarcastic. "That depends upon how many we get, of course," he said, "but let's take just these seventeen we've got now. By the time they're grown next summer they'll weigh twelve or fourteen pounds apiece. Allowing half of that for waste, we'll say they average six and a half pounds of dresed meat. Now at ten cents a pound, that comes to sixty five cents, and seventeen of 'em would be worth —let's see—"

Melly stoped to do a little mental figuring. "Well, say about eleven dollars for only seventeen," he went on. "The sand banks along the creeks are just full of eggs, and we're going to get all we can find. There are thousands of them, and besides, when you make the meat up into soup it foots up a whole lot faster than I've figured. When we get our turtles together, we can show people all kinds of value. Aren't they selling stock in fox farms and such things? Foxes ain't half as practical or a millionth part as plentiful as snapping turtles, Aunt Kate!"

"Then you're not going to sell any stock till you get your turtles together?"

"Why, no—not unless somebody comes and asks for it."

"Well, I guess nobody will. But what are you going to feed them?"

The boy scratched his head thoughtfully. "Mostly they feed themselves," he explained, "but of course, if we shut them up and they ge pretty thick, we'll have o feed them. Every time we catch turtles we're going to cach frogs, and every time we get turtles' eggs we're going to get tadpoles. The turtles will eat the frogs, and the tadpoles will grow up just in time for the turtles that hatch out to eat them. You see, in hat way, feeding them won't cost anything except a little time and trouble."

Miss Kate shook her head sadly "You go and put the rest of them in the pail," she said, "and get them down to the creek just as quick as you can, for I don't want them crawling round here."

Melly returned to the barn, and for a time his aunt stood watching him wondering wether or not to put an immediate stop to the preposterous scheme. At last she decided that in a short time it would fall of its own weight.

On the following Saturday four or five boys inclosed part of the creek with woven-wire fence. The part thus impounded was not very large, but evidently they judged that it would do for a beginning, for they dumped the bucketful of young tortoises inside the inclosure, and with admiring eyes watched the little reptiles scuttlee to cover. Then the boys joined in a hunt for turtle eggs.

As Melly was rather close-mouthed on his return, Miss Kate did not know how the hunt had succeeded until two or three days later, when she discovered a bed of freshly spaded earth on the southern slope at the foot of the garden.

"What have you planted there?" she inquired.

"I haven't planted anything there," said Melly. "That's our turtles'-egg incubator."

"Have you got a lot of the eggs of those nasty things in there?"

"Yes, most two hundred."

"Then they will be crawling all over in no time!" cried Miss Kate. "Didn't I tell you to keep them down by the creek and away from tthe house?"

"Well, we'll look after 'em. Its more to our interest to put 'em on the creek than to yours,we don't want to loose any of 'em."

"I don't think you're watching very carefully, theres one scrambling round under those pieplants leaves now."

Melly ran to investigate, extended his hand, and drew it quickly back.

"My goodness!" Miss Kate cried, pulling her skirts tightly about her ankles. "It's a snake, a little water snake! You've put snakes eggs here instead of turtles eggs!"

Melly looked extremely crestfallen. "Maybe it just came up from the creek,"he suggested. But that theory seemed hardly tenable, especially as at that moment two more snakes wriggled from under the sheltering rhubarb leaves.

"You get every one of them out of there this minute!" Miss Kate commanded, fleeing with a succession of short leaps toward the house. "Get a shovel and dig out every last egg before you do another thing! If you don't, I'll hire a man and have him do it, and have him tear up your fence, too! The idea of your not knowing snakes' eggs from turtles' eggs!"

"Well, could you tell 'em apart? They look a lot alike."

"I could if I were a turtle farmer, or I wouldnt go into the business. Now, you do as I tell you."

Melly got a spade and went over the ground inside the "incubator" limits with considerable thoroughness for he judged that the futuree of the company depended upon his obeying promptly.

All things considered, the Snapping-Turtle Soup Company had not made a very promising beginning. And when in the course of the summer, several of the original seventeen tortoises escaped from the inclosure through a muskrat's hole, the boys' interest in the enterprise began to wane. Toward fall,however, Billy Jenkins, while fishing, hooked a hugh mossback that

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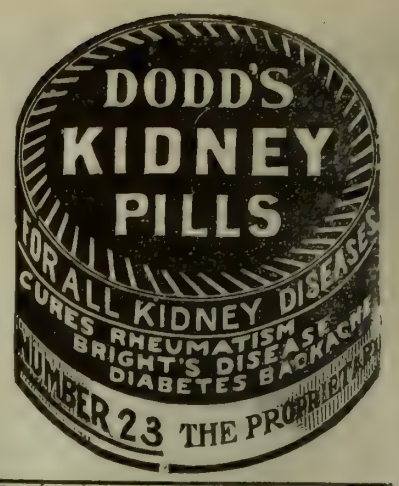

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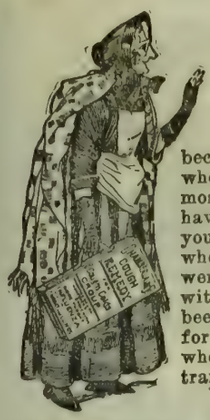

"Granny" Chamberlain

I have come back to stay in Canada as long as cold weather lasts, because that is when I can be most useful. I have helped young mothers whose children were choking with croup, and been the comfort of parents whose children tramp to school in the wet wintry weather.

Many a cold and attack of bronchitis I have warded off, and thousands I have helped in the anxious time of whooping cough.

You will see me often, for I have much to tell you of what can be done in the home with.

Chamberlain's Cough Remedy

Yours for Health
—Granny Chamberlain

26

weighed nearly twenty pounds, and turned it over to President Derby.

"What shall I do witth him?" Melly inquired doubtfully.

"Why, put him in the creek, of course!" said Belly. "Ain't he a wopper?"

"Thats just the trouble. How am I going to get him there? See him reaching for my leg! If he got hold once he'd take a chunk right out!"

"Have him bite the end of a stick and then drag him along on his back," said the resourceful Billy.

Melly tried that plan and found that it worked, the "snapper" held on to the stick like grim death. But the boy made such slow progress that darkness had fallen beffore he reached home. The creek seemed so far away that he decided to defer until the next morning the task of putting the tortois into the watery compound.

A glimmer of ligh from the hall window told him that Miss Kate was somewhere upstairs. The coal closet, just off the kitchen, was empty except for a little "tucket" corn that had been put there temporarily, so, swinging the snapping turtle off the ground Melly carried it inside at arms length and shut it in the closet. Of course, Aunt Kate would be mad if she knew, but there was no kneed of her knowing.

After supper Melly went to bed rather early, and some timee elapsed before he heard his Aunt come upstairs. Then, almost at once, she repassed his door, downward bound, and certain sounds tthat he heard roused his suspicion. Was she going to that coal closet for something?.

Melly slipped from his bed and tiptoed down the stairs. Yes, she was in the closet, and he expected to hear a shriek at any moment. But all was silent. Presently she came out, leaving the dor ajar, and started for the stairway. Melly stole into the dining room, and she passed him without detecting his presence.

He must close the door before the tortois escaped. In the match box on the kitchen wall he found a single match, and struck it on the doorframe of the closet. As the blaze leaped up, he peered into the corners of the little room, but could see nothing of the turtle, which he suspected must be hiding behind the door.

The short lived flame was dying rapidly. Craning his neck to see behind the dor, he tok a quick step foward, when — click! — something closed on his bare foot with a vise-like grip, and as he tumbled backward, the match went out.

"Oh, oh, oh! He's got me, he's got me! Oh-h-h-ee!" Melly shricked rolling out into the kitchen, where he upset a chair to add to the racket. Aunt Kate came down the stairs in a hurry, and as the lamplight flooded the room, Melly found that his foot had been gripped, not by the tortise, as he had feared, but by a "kill-'em-quick" rat trap.

He was barely a second in freeing his foot, after which he looked ruefully at the red marks on the skin. "Why didnt you tell me that you were going to set a trap to-night?" he asked reproachfully.

"Why should I? What were you doing down here, snapping round?"

"Why," Melly began, "I—I—"

His voice trailed off, and in spite of himself his eyes remained fixed on the claset doorway, from which came a rasping, scraping sound. Miss Kate's glance shifted to the same quarter, where she saw a black head, followed by a round, brownish-green shell, slowely emerging into the lamplight.

"Oh," she cried, "I understand! How many times have I told you—"

Leaving the sentence unfinished, she opened the rear door and seized a broom. In another moment she had hurried the mossback out upon the back porch, and there left it to its own devices.

"Now," said the irate lady, "I'm done with this foolishness, and so are you! To-morrow you ttake that fence out of the creek! Do you understand me?'

"Yes, I do?" Melly replied plaintively. "I should think you could bring me some arnica or camphor or something, after leaving traps round to take the skin all of a fellow's feet!"

After Miss Kate had bathed and bandaged his foot, Melly felt better.

"I don't much care about the company, anyway," he confided to his aunt, "for I made up my mind some time ago that there wasn't enough capital or enterprise round here to float it. Put you mark me, Aunt Kate, somebody'll serely take hold of snapping turtles some day and get rich out of 'em."

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Cured by
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It is the power of Veno's Lightning Cough Cure to strengthen all the organs of breathing that enables this wonderful medicine to cure Coughs, Colds, La Grippe, and Bronchial affections so quickly and so thoroughly. Veno's Lightning Cough Cure contains rare curative principles (not found in ordinary preparations) which help the system to throw off respiratory troubles, and so Veno's cures where other means fail utterly. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

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DANGEROUS HEALTH IDEAS

The opening of school marks the beginning of the health problem in the family of one or more children. Every school year there are epidemics of scarlet fever, measles, mumps, grippe, whooping cough, and chicken-pox, with once in a while an outbreak of diphtheria or smallpox to lend variety.

"Smallpox," someone exclaims indignantly,"why there is no comparison between that and whooping cough. Why of course I wouldnt think of exposing my child to smallpox!" One cannot but be sorry for the misguided individual. The average child might better have the average case of smallpox than a case of measles, scarlet fever, or whooping cough.

Almost all of the children's diseases are only too apt to leave a trail of evils from which the child recovers slowely if ever. "Running ear," so-called weak heart, which usually means some organic trouble, kidney disease, and deafness are the by-products of many cases of scarlet fever. Whooping cough has resulted in bad cases of convulsions, hemorrhages, broncho-pneumonia and too frequently in tuberculosis. The idea of exposing children to infectious diseases during early childhood is so exceptionally short sighted for it has been proved by bitter experience that it is the young child who most frequently gets the infection and dies from it. As the child grows older he seems to acquire a certain protection from the germs of these diseases. If we can keep him free from them until he is ten or twelve years old, he may never contract the disease or if he does he has it in a milder form.

Measles is frequently looked upon as a sickness of minor importance and that in the face of records which show that in the case of the child under five years of age, the death toll is usually heavy. Further than that, no disease except whooping cough seems to be such a sure forerunner of tuberculosis.

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I know a woman's trials.
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If you my sister, are [illegible] of ill-health, and feel [illegible] pleasures, or daily [illegible], write and tell me just how you suffer, and let me my **free** ten days' trial of a home tr[illegible] with references to C[illegible] how they have [illegible] happiness by its use. I want to tell you all about this successful method of home treatment for yourself, my reader, for your daughter, your sister, or your mother. I want to tell you how to cure yourselves at home at trifling cost, and without any [illegible]. You **cannot** [illegible] sufferings; what we women know **from experience**, we know better than any doctor; and thousands have passed there is hope **for the hopeless** in my method of home treatment. If you suffer from pain in the head, back, [illegible] bels, feeling of weight and dragging down sensations, falling or displacement of internal organs, ladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly **or irregularly, bloating or unnatural enlargements, catarrhal conditions, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living.** I invite you to send to-day for my complete ten days' treatment entirely free and **postpaid**, to prove to yourself that these ailments [illegible] easily and surely conquered at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when **you are cured**, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all—young or old. To Mothers of Daughters, **I will explain a simple home treatment which speedily and effectually cures green-sickness (chlorosis), irregularities, headaches, and lassitude in young women, and restores them to plumpness and health.** Tell me if you are worried about your daughter. Remember **it costs you nothing** to give my method of home treatment a complete ten day's trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. **Is health worth asking for?** Then accept my generous offer, **write for the free treatment** suited to your needs, and I will send it in plain wrapper by return mail. To save time you can cut out this offer, mark the places that tell your feelings, and return to me. **Write and ask for the free treatment to-day**, as you may not see this offer again. Address:

MRS. M. SUMMERS, - - - BOX 309 - - - WINDSOR, ONTARIO

That the mother may deal more intelligently with the problem of quarantine in these cases of infectious diseases I will briefly outline the striking characteristics of the most serious of the so-called children's diseases.

Scarlet Fever

Every doctor and nurse dreads an epidemic of scarlet fever. While it is not, possibly, as contagious as measles, yet it is the worst of the children's diseases and requires the longest quarantine. It usually makes its presence known a week after exposure. There is at least one case reported by Dr. Holt, where it was only six hours after exposure to the first symptom.

The first signs of scarlet fever may vary, or it may be so wide of the usual that it will be diflcult to recognize. However, the reasonably well behaved case begins abruptly with a temperature, a sore throat, and frequent vomiting. This combination is enough to awaken suspicion. If there is an epidemic, one may be unhappily sure that when all these signs are present there is little doubt of the diagnosis. In from twelve to thirty-six hours after the first hint of trouble the sickness comes out in its true colors and there is a decided scarlet rash.

The time of greatest contagion is during the height of fever, usually from the third to fifth day, but all danger is not past until the child has finished "peeling" which may take six weeks or longer. In even the mildest cases the child should not be allowed to mingle with other children for at least four weeks and he should not sleep with another child for three months. It is evident to the most careless observer that scarlet fever is a menace to which one ought not expose any child needlessly. During an epidemic it should be the duty of every parent to see that health measures are rigorously enforced in the schools and that the children with the disease are not allowed to attend school until a month after all symptoms have ceased. It is better to inconvenience one than to expose the whole school.

Whooping Cough

The cough once heard, the diagnosis is no longer in doubt but sometimes the whoop does not appear until a week or more after the beginning of the trouble. Any cough that is worse at night and appears during a whooping cough epidemic, and which does not yield easily to remedies, is quite likely to inform you of its true character by a whoop, before it ceases entirely.

Because the disease is so difficult to diagnose and because the whoop does not put in its appearance immediately, it is hard to tell just what the incubation or developing period is, but it is probably about the same as measles, anywhere from seven to fourteen days. Its infectiousness, however, lasts longer. In most cases six weeks is the course of the disease, sometimes it will take weeks longer before all symptoms abate. The child should not be allowed to play with other children until the whooping stage is past, or until all coughing has stopped.

The hemorrhages, convulsions and weakning effect of wooping cough make it a disease to be dreaded. Any one who has ever seen a child racked by the paroxysms of coughing must always feel that needless exposure is unpardonable.

Mumps, while exceedingly painful, are not as a rule anything serious, altho, like the erysipelas that sometimes follow chicken-pox, the complications may become a problem.

Most people are sufficiently fearful of diphtheria that they will take all needed precautions. It will be infinitely better for all concerned when people realize the seriousness of all of these children's diseases. If every family, unlucky enough to become infected, would follow out absolutely the rules of the board of health we could soon stamp out epidemics. If we would but follow the Golden Rule, we could by protecting our nighbor's children protect our own. If your child has some suspicious symptoms that make you think of measles, scarlet fever, or whooping cough, keep him at home. Keep him out of school. If you make a mistake in your diagnosis there will be no harm done. If you are right you have done your duty by your neighbor's child. On the other hand, when a child comes to play with your little ones and he looks ill, send him home. A sensible mother will find no fault with that.

Since spring and fall are quite apt to yield their quota of epidemics, pay especial attention to the children's health at these times. Keep yourself posted on the epidemics in school and warn the children of the folly of using pencils and books belonging to other children. It is a reflection on our intelligence and our community spirit that we tolerate so frequent and constantly recurring epidemics of children's diseases.

Measles

There is only one other child's disease that, in point of infectiousness, stands at the head of the list with measles and that is whooping cough. Both have a tendency to appear one right after the other. A child will recover from whooping cough only to gobblee up a select collection of measle germs.

Measles like scarlet fever is accompanied by a rash but where the fever usually begins abruptly, measles take more time to start the trouble. It usually begins as a cold, with a good deal of discharge from the nose and quite a bit of redness and watering of the eyes. The "spots" or rash usually put in a firstt appearance on the face, or back of the ears at the roots of the hair, from there it spreads gradually until it has covered the body. This usually takes place anywhere from the fourth to the sixth day. During the first days of th rash the child is most uncomfortable. One of the most important trade marks of the disease is the "Koplik's sign" which can in most cases be found on the inside of the cheeks opposite th double or back teeth, where it appears as tiny bluish specks on the reddened background. This is what may be termed a sure sign but unfortunately it is not always easily distinguished, especially by artificial light and it fad s when the measles rash is full grown.

Measles require from eleven to fourteen days to get itself in working order If you have been exposed and have no symptoms inside of fifteen days you are pretty sure to be able to pat yourself on th back and congratulate your system on having no liking for measles. The disease is most easily "taken" during the catarrhal stage and diminishes in contagiousness as the rash disappears. Unlike scarlet fever it is not a menace for such a long time. Usually at the e nd of three weeks the child is no longer a source of danger to other children.

The most to be feared feature of measles is the frequent complication of broncho-pneumonia and the thoroness with which it weakens the system until it falls an easy prey to any infectious disease, tuberculosis especially. Frequently in taking the history of a patient ill with tuberculosis the following facts are found. "I've had a little catarrh and havent feelt quite well since I had the measles." Or the story is varied by this, "After I had the measles my mother said I had bronchitis for a long time." Sometimes they give a history of a swollen gland but always the connection between tuberculosis and measles is markedly suggestive.

If one could be sure of taking German measles the outlook would be nothing to worry about for true German measles is the mildest of the chrildren's diseases. Unfortunately our systems are not always careful buyers and are quite apt to pass by the mild German brand and pick up the real old fashioned kind with its long train of ills.

No Stooping

BENDING over to a low-down oven is needless work.

The Handy-height Oven makes baking a far, far lighter task. You can see things baking through the Clearview door.

The Lighter Day does away with stooping. It makes your days brighter. It lightens your work.

Modern white porcelain enamel and bright nickel finish. Sold in 700 stores. Book of photos on request.

CLARE BROS. & CO. LIMITED, - PRESTON

LIGHTER DAY
HIGH OVEN COAL RANGE

11

CLEANING THE SINK

Keep the sink and trap clean and sweet by pouring down once a week a kettleful of boiling water in which a handful of washing soda has been dissolved. Turn on the hot water faucet for a few minutes after the soda water has been used. Scrub the sink well with soap and hot water after each meal.

MAKING NEAT SEAMS

Overcast or fell all seams to keep them from fraying. The fell makes the work the neatest. To fell a seam, place the goods, onee piece a little farther out than the other, stitch with the machine. Turn in raw edge, and then turn in again and stitch down flat like a hem.

CROWN BRAND CORN PURE SYRUP

In "Perfect Seal" Glass Jars

These are the finest preserving jars made; and hold a full quart of preserves, or 3 pounds of "Crown Brand" Corn Syrup.

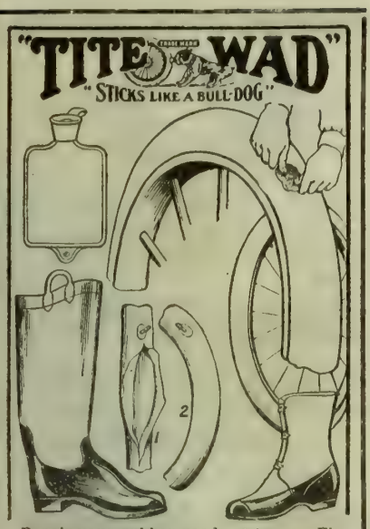
By buying "Crown Brand" in glass, you get the most delicious table syrup, in the perfect preserving jars. Ask your Grocer for them.

Your grocer also has "Crown Brand" in 2, 5, 10 and 20 pound tins.

You'll find our new recipe book, "Desserts and Candies" helpful and interesting. Write for a copy to our Montreal Office.

THE CANADA STARCH CO. LIMITED,
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.

Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch. 224



Repair your rubber goods at home. Five cents and your time will fix hot water bottles, rubber footwear, raincoats, bicycle and auto tires and tubes. Vulcanizing is no longer necessary for small holes. Dealers wanted in every town P epaid by mail; put up in 50c, $1.00, 1.50 sizes. 200,000 users already know it. Order a tin today.

E. SCHOFIELD

24-26 Dalhousie St. Toronto — 26 Victoria Sq., Montreal

WASHING WOOLLENS WITHOUT SHRINKING

To wash woolen goods successfully the water should be soft and warm, not hot, and of uniform temperature throughout the operation. Only the milder soaps should be used and these not applied directly to the fabric. If much dirt is present, a volatile alkali such as ammonium carbonate may be added to the wash water.

The scrubbing to which fabric is subjected, should be gentle, and the wringing through loosely set wringers.

Once washed, the goods should not be allowed to lie about wet, but should be immediately hung up to dry preferably out of doors if the air is dry and the temperature above freezing.

The reason for this careful treatment is found in the peculiar nature of the wool fabric. Its outer or epidermal layer is made up of minute serrations which are arranged in some such manner as the scales on a fish. Now these scales are softened and opened up by hot water and by such alkalies as are found in the harsher soaps. In this softened condition the pressure due to hard scrubbing is sufficient to cause the serrated edges of the fibres to interlock or felt. Felted fibres are usually hard and brittle. This is because the alkali which has helped in felturing process has removed from the cells certain fatty substances which serve to make the fibre soft and pliable.

Fabrics which have become hard and felted, have not only lost their attractiveness, but also most of their usefulness as a protection from the cold. This latter quality is due to the "air blanket" which forms in the spaces between the fibres, for quiet air is, as we know, a very poor conductor of heat and cold. When the fibres have become felted, these air spaces are lost and consequently the fabric is no longer able to materially aid the body to retain its heat.

CLEAN YOUR DRESSES WITH CARBON TETRACHLORIDE

While gasoline is, as most of us know, a cheap and effective cleaning agent, it has one great disadvantge. It is extremely volatile, and its vapors form, with air, an explosive mixture. On no account then, must it be used in a room containing a flame of any kind. There is, however, another cleaning agent, more expensive than gasoline, it is true, which is absolutely non-inflammable. This is carbon tetrachloride, a substance but little known as such, but often sold under such trade names as Aolval, Eradeline, Antiflammen, etc. This substance is, like gasoline, a fat solvent, and cleans by dissolving out the grease which mechanically holds dirt in the fabric. Carbon tetrachloride has another advantage over gasoline, it spreads less readily and for that reason is less liable to form a ring when grease spots are removed by sponging.

KEEPING VEGETABLES HOT

When mashed potatoes, baked beans or any of the various creamed or escalloped dishes must be kept hot for any length of time, try placing the vessel containing the food in a larger one containing hot water. Place a cover over the larger vessel and you will find that the steam will keep the food hot and moist with no suggestion of aver-cooking. This fact is especially noticeable with escalloped dishes. During threshing or corn shelling time, when considerable time elapses in serving all the men, this will help to make the meal of the last man to be served as palatable as that of the first one to sit down.

If the cover is replaced each time after the food is removed, the dishes will be much more easily washed as the steam will keep the food loose from sides as well as bottom of the kettle.

OLD TIME APPLE PIE

Now some one is longing for the real old time apple pie and here it is, and believe me, it is good. Make a good, rich crust, as a rich, flaky crust is essential to any good pie. Line the pie tin with the bottom crust rolled thin. Pare and slice thin enough tart apples to fill the tin, heaping up a little in the centre. Mix one half teaspoonful of cinnamon, and level dessert spoonful of flour and three-fourths cupfuls of sugar together and stir in among the apples. Add one tablespoonful of water and one tablespoonful of butter put on in dabs, and bake with top crust. Bake until a light brown.

WHEN MAKING COMFORTERS

When time for washing comforters comes each year the woman who has had the laundering of them in mind when they were made has an advantage over her sister housekeeper. Removable covers are real comforts when they have to be cleaned. In making cotton comforters it is a very good plan first to tack the cotten in a thin cheesecloth cover, the tacking is quickly done if a long back stitch is used. There is no need of tying the heavy thread used on the inner cover. After the cheesecloth comforter is finished place it in the silkaleen cover and then tack through the silkaleen in a few places with pretty yarn knots. The silkaline cover is easily removed when it needs to be laundered. The cotten in its cheese-cloth cover should be well sunned before it is put back into its nice clean dress.

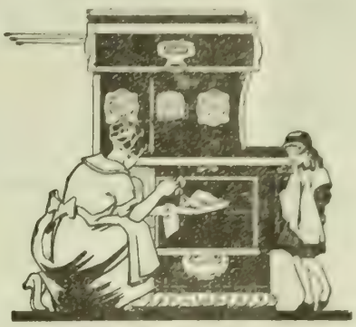
CEMENT FOR CHINA

One ounce of shellac dissolved in one-half ounce of oil of turpentine. Work into this two and one half ounces of fine powdered pumice stone. Or a paste may be made of white lead mixed with half the quantity of pipe clay and moistened with boiled linseed oil.

Fawcett

NEW CHAMPION RANGE

A GREAT BAKER



Fawcett Ranges are the handsomest, most economical, durable, and satisfactory, as well as the best bakers.

Send for our booklet explaining why. It contains facts about ranges that you, as a housekeeper, ought to know.

CHARLES FAWCETT LIMITED

SACKVILLE · N · B · CANADA

To Investors

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT, MAY PURCHASE AT PAR

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IN SUMS OF $500 OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

HOW TO MANAGE A RESTLESS HORSE

(Continued from page 66)

It may be necessary to give him a lesson first with a foot lift rope. This is a strap with a ring on it buckled below the ankle of the horses front right leg. Secure a rope, preferably a half-inch cotton one, about 12 feet in length. Pass one end through a ring fastened to the surcingle or belly-band of the harness, down through the ring on the foot, then up and tied to the curcingle. Take hold at the other end of the rope with the right hand.

Put on lines and drive him without first hitching to a rig. Give command to stop, pull the lines, and pull up on the rope all at the same time. Repeat this until the horse knows what it means, and obeys. Then hitch to the rig and repeat. By patience and kindness and rewards of kind words, a little "something" that he likes to eat, given when he does as he should, goes a long way in making the horse stand when wanting him to. Never should the horse be induced to start in a hurry.

Put blinders on the horse, and hitch him from either side to prevent him from turning around. Get located where the horse can' see you, and when he paws strike him on the fore legs with a good keen whip and he will soon think that the pawing is producing the cuts and get disgusted with the habit.

To prevent forging, shoe light behind good weight roller motion in front, frnt shoes very short not to extend past the hoof.

To get a horse to stand while getting in the rig, put him to a breaking cart and simply hold him if he rears and falls. When he gets up continue to hold him as if nothing had occurred. Plenty of use is helpful as it takes up the excess energy until habit is overcome.

PREPARING FOR WINTER EGGS.

(Continued from page 67)

for the meat part of their ration. If the hoppers are kept full the hens will begin to lay as soon as the molt is finished and the pullets will lay steadily after they have once started.

The usual farm diet for poultry has too much of a sameness. Corn or wheat, whichever is the more plentiful is the grain usually given them, though if wheat prices keep on soaring it is not likely they will get over much of that. In feeding the chickens it must not be forgotten that he price of eggs is keeping even step with those of corn oats, wheat and other grains, and that real economy lies in feeding for egg production.

Considering the food value the price asked for wheat screenings is little if any less than what good wheat sells for, and moldy or smutty wheat is dear at any price, as either of these are injurious to the digestive organs. Smutty wheat can be washed without a great deal of trouble, but unless one is provided with good facilities for drying it again the operation must be performed every day or two.

The simplest method of washing is to fill a pail or tub with water and pour the wheat slowly into it. The smut kernels, being lighter than the other, will rise to the top and flow ove. the edge of the tub. Stir with the hands or a padle, drain off the water and repeat the operation until water is clear.

Wheat that has been wet and kilndried should not be depended upon as a regular ration as the hens are not fond of it and will not eat enough to keep up egg production.

A good grain ration is all the corn they will eat at night and about half that amount of wheat and oats for the morning feed, or the corn, wheat and oats may be kept before them in self-feeders providing the operation of the feeders gives them sufficient exercise.

The purpose of the grain is mainly to sustain life. For egg production they require in addition some food rich in protein, such as meat scraps or dry meat mash, preferably both of these.

A hen can be kept for 75 cents to $1 a year and lay a few dozen eggs when prices are low, or the addition of another 50 or 75 cents in egg-making foods will enable her to produce double the quantity with double the price for the surplus. This is the place to look for the money in poultry raising.

The natural time for a hen to lay is when she can gather insects and green grass. Give her the equivalent of these and she will lay during the winter. Meat scraps is the cheapest form in which to buy egg-making food. It is the only poultry food that has not advanced in price during the last few months.

Our miller nailed the following formula to a post in the mill and mixes the feed to our order at an average cost of about two cents per pound. Double the amount of alfalfa is used during the winter to add greater bulk:

Bran	200 lbs.
Ground corn and oats	200 lbs.
Middlings	100 lbs.
Alafafa meal	50 lbs.
Meat scraps	100 lbs.
Salt	5 lbs.

C. N. Whittaker.

WHEAT SMUT CONTROL.

(Continued from page 57)

the soil of a field producing a crop of smutted wheat this year may harbour enough smut spores to cause the appearance of smut in next year's crop if the field be re-seeded to wheat. This sometimes occurs where smut is very bad, in spite of the planting of treated seed, and shows that in such localities crop rotation should be practised in addition to seed treatment. Bunt or covered smut of wheat attacks no other cereal crop, but other cereals have their own smut diseases.

Loose Smut.

The other wheat smut occurring in this country, known commonly as loose smut, is not so serious as bunt, though it probably produces an average loss of three-fourths of one per cent of the total wheat crop of the country. Loose smut may be prevented by treating the seed by the Jensen hot-water method or some modification of it.

The Jensen method consists in soakin hot water at a temperature of 132 to 133 degrees F. It is highly important that the water shall not rise over 135 or fall below 130 degrees F. A temperature below this will not kill the smut, while a temperature too high may affect the germination of the seed. The grain, after treatment, should be immediately spread out to dry. If it can not be spread out at once, it should be dipped into cold water to cool and spread as soon as possible.

Send for our New Cook Book

Mail us a red ball trade-mark, cut from a bag or carton of Lantic Sugar, and we will send you a book of particularly good recipes for cakes, candies, preserves and other delicious sweets.

Lantic Sugar

is called "*The All-Purpose Sugar*," because the extra "FINE" granulation makes it equally suitable for the table, for cooking and for preserving.

Packed in 100-lb bags

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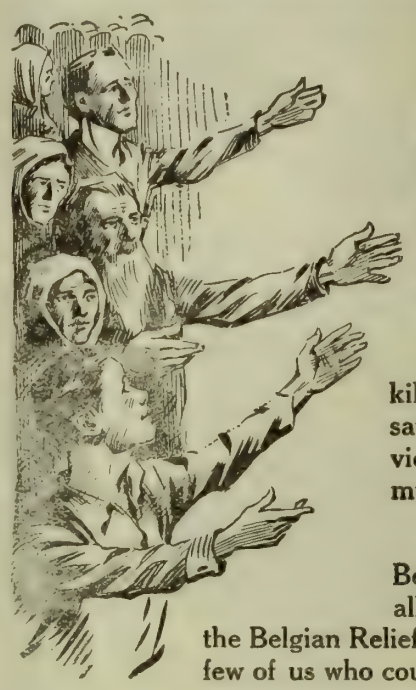

YOU can save Belgian lives!

Though you cannot fight and kill Germans, you can give and save some of their helpless Belgian victims, three million of whom must be fed or starve.

So little is needed to feed a Belgian family, and so economically are contributions handled by the Belgian Relief Commission, that there are very few of us who could not provide for at least one family through this winter, or till the end of the war.

$2.50 a month—less than 10c. a day—will do it! How easily you could save that much from your little indulgences—and how much it would mean to some Belgian mother and her hungry little ones!

Wouldn't a little self-denial now be richly repaid by knowing, when the war is over, that you had done your part, and had saved precious lives for our unfortunate Allies?

Enroll your name to-day among those who are doing their bit in this way! Send your subscription weekly, monthly or in one lump sum to Local or Provincial Committees, or

Send Cheques Payable to Treasurer

Belgian Relief Fund

59 ST. PETER STREET, MONTREAL. 27

$2.50 Feeds a Belgian Family One Month.

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Special Offer By Wire

TRAPPERS AND DEALERS GET MORE MONEY FOR YOUR FURS
Write now for special market reports. We post you up to the minute FREE No matter how large or small your shipment SEND IT TO US. Special Telegraph Connections Everywhere.
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ARMY AUCTION BARGAINS

Saddles, $3.00 up. New uniforms, $1.50 up. Army 7 shot carbine $3.50; etges. 1½c each U. S. N. Winchester high power rifle 6m/m, $9.85 Team harness $21.85 up. C.W. Army Revolvers, $1.65 Remington Army Revolver, $4.85; etges. 1c each Mauser High Power rifle with 200 etges. $19.85 15 Acres Government Auction Goods Bargains illustrated and described in 428 large page wholesale and retail cyclopedia catalogue, mailed 25c east and 20c west of Mississippi River.
FRANCIS BANNERMAN, 501 BROADWAY, NEW YORK

WOLF—RED FOX—CROSS FOX

We have a big demand for Red Fox, Cross Fox and Wolf; therefore will pay you the following hi. h prices for skins from your section:

	Prime Large	Medium	Small	No. 2	No. 3	No 4
Wolf	$ 7.00	$5 00	$3.00	$5 00—$2.50	$1.50	$ .50
Red Fox	12.00	8.00	5.00	8.00— 4 00	2.50	1.00
Cross Fox, as to color	$50.00—20.00	$30.00—15.00	$15.00—7.00	15.00— 7.00	5 00	2.00

We pay all express charges and charge no commission. Send small shipments by parcel post; large shipments by express. We refund postage, parcel post and Consul invoice. No duty to pay on shipments to U. S. A. Cash or money order sent on arrival of goods to us. Send for price list on other furs.

STICHT-SINGER FUR CO., 329 Seventh Ave., NEW YORK CITY
Incorporated. Established 1905. Dept. A. P.
References: Bradstreets or Dunn's Agencies and Bank or Bankers

Advertise in the Maritime Farmer for Results

THE N. B. APPLE SHOW

(Continued from page 60)

F. & F. L. Fox; 2, J. W. Clark; 3, A. R. Gorham.

Senator W. H. Thorne, special prizes for best three barrels of apples—1, A. R. Gorham; 2, St. John Valley Nurseries.

J. A. Marvin specials for best two boxes Gravensteins—1, B. F. Peters; 2, A. R. Gorham.

P. W. Thompson specials for best three barrels apples—1, Thos. A. Clark.

TREATING TREES FOR SCALES

I observe that Charles M. Patterson in discussing a cure for SanJose scales advises complete destruction of the trees and then replacing with other trees not affected with scales. But what then if the scale is in the neighborhood? What good does it do to destroy infected trees, replacing such trees with healthy trees nly to have the dealthy trees in a short time becomejust as badly affected as the trees previously destroyed? Such a doctrine is not so up to date. We nave methods for treating scale which are just as effective for ridding fruit trees of scale affliction as for colts of lice, sheep of ticks, range steers of mange, or southern cattle of cattle ticks.

You might say with equal honesty that when colts are covered with lice or steers with mange, or sheep with scab that the thing to do is to slaughter or market at once. The average live stock man would laugh at such a doctrine. He would say spray or dip and thus get rid of the pests. Not only do this once, but ffrequently, and at the samee time clean up the infected quarters, otherwise live stock put in the same quarters would soon be as badly affected as the infected individuals. That is the way it was with San Jose scls. Destruction of trees in this day and age is a foolish practice. It means loss of years in growth nd then when healthy trees are planted you are right back where you were before, unless you spray.

The practical, common sence, right treatment is to spray. When effective sprays, such as are now available, as for instance scaleside, it is absured to talk about destroying trees. Spraying from time to time with scalecide will not only clean up an infected orchard, but soon will have every tree free of these pests and growing vigorously. John M. Weiss of Michigan in discussing his experiences with San Jose scale stated that after many years of hard work he had succeeded in getting several thousand trees up in good bearing, then suddenly he found that they were infected with several pests, including San Jose scale. Now, what did he do? This is what he says: "After trying several spray mixtures I purchased a barrel of scalecide and was so encouraged with results tht I went on and sprayed all of my trees, doing a thorough job, spraying from all sides and spraying no material." He cleaned up his orchard and got fine colored fruit of the best quality.

Mr. Weiss's experience is duplicated in all parts of the country. Take the Tyson Brothers. of Pennsylvania Twelve or thirteen years ago they had 200 old apple trees in which they had failed to control the scale and they had actually cut out 144 trees when having heard of scalecide, they sprayed the remaining 56 trees that were left with this material. Just a few years later they sold one year's crop for $960. These trees remain to-day healthy and productive. One does not need to destroy scale infected trees, but you wannt to get a spraying outfit and go to work and horoughly spray and keep at it, and by so doing clean up the orchard, and then by continuous sprying thereafter there shoul" be little difficulty witth orchard pests or in producing good fruit of good color, fine skin and right quality.

Take the fruit section in any part of the country and for any kind of fruit and you will find the successful fruit growers are the men who depend on spraying, and who spray thoroughly. Spraying is just as important a part of every orchard work as pruning the trees or keeping the soil in proper condition or picking the fruit and of properly packing it for market. No the way to treat San Jose scale is not to destroy trees,but to spray and spray thoroughly.

C. W. Burkett in N. E. Homestead

WHITE PIGS ON PASTURE

M. G. Connolly, writes: "In your issue of July 5 I notice a query re white hogs becoming scabby on rape or other wet pastures, the reason for which you are unable to give. Perhaps you will pardon me for presuming to give some information on this subject. White skin, whether on pigs, horses or other animals lacks 'pigment' or coloring matter, which protects the skin. This dark-colored substance is in the blood, and serves as a protection to the skin. It may often be found in little hard lumps in the skin of an old grey horse. Dark skin protected by this pigment is much more resistant to the effects of the sun, wet, etc., than is white skin, at least that has been my experience. I find that horses with white legs are much more prone to have scratches, grease, etc.,than horses with legs of another color. The pigment protects the skin."

MAKE A HANDY CHURN

When we made a change from butter making tto cream selling and churned only occasionally to supply our household needs we found butter became stale quickly, especially in summer. We got busy with our tools and genius and made a little family churn that furnishes us fresh butter any day in the week at small cost and little work.

We used a glass gallon jar with a screw cap top. Nearly every household possesses similar jars. On this cap top we mountted a 15 cent egg beater gearing, removing the beater portion and substituting a small wooden dasher made from maple. This little churn is easily operated and quickly brings us a pound roll of butter that we know is sweet, clean and sanitary.—Geo. W. Brown, Hancock Co. O.

We hear so much nowadays of the advantages to be derived from the proper use of commercial fertilisers that some of us are almost inclined to look upon farm yard manure and composts as getting old fashioned and out of date. There could not, however, be a greater mistake, and if we neglected the application of natural manure or other form of organic matter for any length of time the diminished crops would soon bring home to us that we were trying to grow plants on an artificial means which Nature revolted against.

SANDWICH

One of the most common questions asked by the housewife is, "Can you tell me a good sandwich filler?" Here are a few that have proved to be very satisfactory.

Meat thinly sliced or finely chopped and seasoned, or mixed with salad dressing.

Celery chopped fine and mixed with salad dressing.

Olives chopped fine and mixed with salad dressing, one-half cup to one-quarter cup olives.

Celery, pimentoes and nuts, chopped fine and mixed with salad dressing.

Cream cheese and nuts, or olives, or pimentoes and cream.

American cheese grated, seasoned with tomato.

Lettuce with mayonnaise.

Peanuts, pounded smooth, seasoned and moistened with cream.

Figs cooked to smooth paste, sugar, lemon juice and nuts added.

Dates and preserved ginger.

Dates and peanuts chopped fine, moistened with cream.

Raisonc cooked to smooth paste, lemon juice and nuts added.

The bread should be 24 hours old and cut in thin, evenslices. If fancy forms are desired, shape before spreading with butter. Cream the butter and spread evenly.

Every Dollar You Invest In Feed for the Cows, ought to bring you two dollars' worth of milk and butter fat. If the feed does not increase the milk yield this much, you are paying too much for it.

EDWARDSBURG GLUTEN FEED

23% PROTEIN GUARANTEED

gives the farmer and dairyman a reliable, standard feed of guaranteed Protein strength.

Our little book—"More Milk and Richer Milk"—tells the whole story. Write for a copy, study the hints it gives, and see if you too, cannot double the profits from your cows.

The Canada Starch Co. Limited - Montreal

—FATTEN THE HOGS WITH EDWARDSBURG OIL CAKE. 307

Are you **Nervous & Pale** mornings?

Your vitality is low. You need the living energy that Dr. Cassell's Tablets can give.

Nerve Nourishment.

It is nerve hunger that causes nervousness and pale faces, and only nerve nourishment can bring back health and the brightness of health. Drugs are useless. But nourish your nerves with proper nutrients like Dr. Cassell's Tablets and nervousness must go. Colour returns to your cheek, sparkle to your eye, health, vigour, and vitality to your whole being. Dr. Cassell's Tablets are composed of just such nutrients and restoratives as a Specialist would prescribe.

Lady Charlotte Briggs, the famous authoress and traveller, writes:—"Lady Briggs presents her compliments to Dr. Cassell's Co., and will be glad of another half-dozen packets of their Tablets, which she has pleasure in stating are most efficacious in removing the distressing results of overwork, over-worry, or nervousness."

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-spasmodic, and the recognised remedy for

Nervousness, Nervous Breakdown, Neurasthenia, Sleeplessness, Anæmia, Malnutrition, Dyspepsia, Palpitation, Kidney Trouble.

Specially valuable to nursing mothers and women in middle life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube 50 cents, six tubes for the price of five. War Tax 2 cents per tube extra.

Free Sample On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie and Co., Ltd., 10, McCaul-street, Toronto.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Dr. Cassell's Tablets

THE TWELFTH NEW BRUNSWICK FRUIT GROWERS' CONVENTION

Knowing that the most progressive fruit growers of the province would be exhibiting their fruit at St. John and that many of the members of the Fruit Growers' Association, other than exhibitors, would pay the apple show a visit, the executive of the New Brunswick Fruit Growers' Association planned to hold their twelfth annual meeting during the show week in St. Andrew's Rink.

The executive members were so busily engaged in getting the big show complete in every detail that the formal meeting was not held until the morning of November 3rd, but in the meantime and after interested fruit growers had ample time, and they took opportunity of the same, to congregate in small groups and move around from exhibit to exhibit, discussing the same and exchanging ideas re orchard care and management and the proper picking, packing and marketing of apples. Whenever opportunity offered, the judges joined in the discussions and helped to shed some rays of light on the most perplexing questions.

On Thursday morning the men got together for their business meeting.

THE PRESIDENT'S ADDRESS

The President, H. H. Smith, Hoyt Station, was in the chair and delivered the following address:—

Officers and members of the New Brunswick Fruit Growers' Association

It is my pleasant duty to welcome you to this, our twelfth annual meeting of the New Brunswick Fruit Growers' Association.

It is with a feeling of pride that I refer to our third apple exhibition, with its magnificent display of fruit. Such exhibitions bring the fruit growing industry into greater prominence, advertise the general agricultural possibilities of our province and bring the fruit growers together in a way that stimulates them to greater exertions and to the adoption of better methods.

It is gratifying for me to be able to state that this has been a good year for the fruit growers of New Brunswick. Apples have been a medium crop and prices fairly good. Strawberries were an abundant crop. Prices ranged high at the first of the season but dropped later on account of the berry season in Ontario and Quebec being late so that we were not able to ship our berries west at paying prices until after our local market had been overstocked. Other small fruits were a good crop and sold at remunerative prices.

The prospects for commercial fruit growers for the near future in our province should be very bright. It is a well established fact that no finer apples and small fruit can be grown anywhere in the dominion than in our province by the sea. One of the greatest advantages that New Brunswick apples possess lie in their wonderfully high color and singular beauty of appearance, as can be readily seen in our fruit exhibitions. Regarding the flavor and quality of our apples it is well recognized not only by all the leading authorities but by the most critical of all critics, namely the great consuming public, that apples grown on the Atlantic coast regions are far superior in flavor to those grown in the west. With the start that has already been made in commercial fruit growing, with plenty of suitable land at very moderate cost, with cheap and rapid transportation, with an overseas market close at hand, with the knowledge that has been acquired as to proper varieties to plant, with the active co-operation of the government, the success of New Brunswick as a fruit producing province seems assured.

We regret that at the present time our fruit growers are handicapped by the absence of cheap and rapid transportation to the European markets in October and November when the fall varieties should be marketed.

It is a well known fact that there are many early and late fall varieties grown in this province which cannot be surpassed in any other part of the dominion. When the crop is light we have no difficulty in finding a market at home at remunerative prices, but in years when the crop in the east is heavy it is impossible to realize satisfactory prices on account of the great quantities of inferior fruit which is shipped into the province.

It is therefore quite obvious that we should reach out and establish trade connections with other markets. The prairie markets are very desirable in deed. The people of the prairies are large consumers of apples and great quantities are imported annually from the early apple growing states to the south of them.

I have no doubt whatever that because of the excellent quality of our fruit, if we grade and pack it properly, we will have no difficulty in obtaining and holding a first place in the markets of the prairie provinces.

For the individual fruit grower to accomplish this is a commercial impossibility; the cost would be out of all proportion to the value of his crop. Co-operatively this is possible and the individual cost would not be great, in fact it should prove an excellent investment.

Organization will not solve all the difficulties with which the fruit grower has to contend, but it will go a long way towards putting the fruit industry of this province on a sound business basis and elevate it to the high position which it justly deserves.

In conclusion I will say that I trust our meeting will be both pleasant and profitable and that we will return to our homes realizing that New Brunswick is the land of the "Big Red Apple" and that money can be made in the fruit raising industry.

Owing to the rush of work connected with the Apple show, Mr. Turney, the Secretary-Treasurer was unable to have his report completed and he asked that the Association appoint a committee of two to audit his accounts as soon as he has them ready. His bank balance at the time of meeting was $347.00 and there were still a few outstanding accounts to be received from parties who had bought trees and spraying materials through the Association. Messrs. W. B. Gilman and S. B. Hatheway were the Auditors appointed by the Association in compliance with Mr. Turney's request. The membership numbers about one hundred.

The election of officers resulted as follows:—Honorary President—T. H. Estabrooks, St. John; President—Roscoe A. Fillmore, Supt. St. John Valley Nurseries, Burton; Vice-President—W. P. Fox, Lower Gagetown; Sec.-

Money in Richer Milk

TO increase the milk supply, and obtain a higher percentage of butter fat, feed a good nutritious ration, and include

Pratts ANIMAL REGULATOR

25-lb. pail, $3.50; also 50c. and $1.00 pkgs.

every day. This supplies just what a cow needs to turn all the nutriment contained in her feed, into fine, firm flesh and full, rich milk. Fall-freshened cows need just such a scientifically prepared tonic and conditioner to build them up after the ordeal of carrying the calf through the summer heat.

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Valuable Book on Care of Stock FREE. Write for it NOW.

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Big Ben

A *Westclox* Alarm

The Gift of Time

BIG BEN'S the only time-clock the modern farmer knows—he helps the farmer beat the sun to work.

Four a. m., in growing time, starts the farmer's day—brings a bumper crop of hours, for chores and in the field.

That's why Big Ben goes to the farm, at Christmas every year—to lend a hand in preparing for planting days. Now'days there's businesslike system on the farm. Where Big Ben's wound up every night, the farm cannot run down.

So it's Big Ben for Christmas, wherever you go—the gift of time that means good-will all year.

You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—downright good all through. He rings two ways—ten half-minute calls or steadily for five minutes.

Big Ben is six times factory tested. At your dealer's, $2.50 in the States, $3.50 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

Westclox folk build more than three million alarms a year—and build them well. All wheels are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

La Salle, Ill., U. S. A. **Western Clock Co.** Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Bingo, Sleep-Meter, Lookout and Ironclad

Treas.—A. G. Turney, Fredericton; Directors—A. R. Gorham, Gorham's Bluff and W. B. Gilman, Fredericton.

R. A. Fillmore, A. G. Turney and W. P. Fox were appointed a committee to draft a resolution to forward to forward to the Dominion Fruit Commissioner. Following is the resolution drafted and passed.

Resolved, That this Association heartily appreciates the very satisfactory and courteous services at the third New Brunswick Apple Exhibition of the Fruit Commission officers and branch; and

Further resolved, That this Association desires to co-operate with the Dominion Fruit Commission as closely as possible for the immediate improvement in the grading, packing and marketing of the New Brunswick apple crop.

The judges who officiated at the big show were present at the meeting.

Mr. C. W. Baxter, Chief Fruit Inspector for Eastern Ontario and Quebec had come to the show to represent Commissioner Johnson who was indisposed and unable to be present, buch to his disappointment, as he had looked forward to meet and get acquainted with the men who are doing things in fruit growing lines in New Brunswick.

Mr. Baxter conveyed the Commissioner's assurances of help and asked for expressions of ideas from the fruit growers themselves as to how the Commissioner and his officials can best serve the New Brunswick growers.

Practical demonstrations in packing at the winter courses and the planning of arrangements for co-operative marketing were some of the things asked for.

P. G. Carey, Apple Packing Demonstrator for Horticultural Division, Ottawa, said the New Brunswick Fruit Show eclipsed all the fall shows he had ever seen and compared favorably with the big winter fruit shows held in the provinces claiming even greater things from fruit growing than does New Brunswick.

The echoes of one of the crying evils and curses that the fruit growers have had to contend with in the past and to some extent now-a-days, was in evidence at the Apple Show, viz: the selling of trees not true to name by unscrupulous nurserymen. Many years of valuable endeavour have been partially lost on this account, and growers not acquainted with the characteristics of varieties of apples have been grievously led astray to the extent that some growers had actually made entries in some sections at the show, conscientiously thinking they were showing the varieties called for in that section and never receiving the rude awakening that they had been duped by the agents until their attention was called to the fact by the judges at the show.

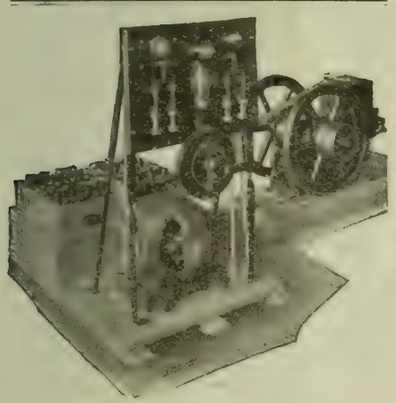
Mr. Carey explained that the promiscuous planting of trees of varieties not suitable to a locality was the worst form of over planting. The planting of proper varieties to suit the respective localities was not over planting. Fameuse and McIntosh varieties as grown in New Brunswick will always be in demand. It is true these varieties are particularly subject to fungus pests, but then spraying for the control of these pests is just a blessing in disguise. He would not advise any grower to plant the Ben Davis and the Stark is not asked for.

Referring to the box pack at the show, Mr. Carey said the work was almost faultlessly done in some cases, while in other cases the apples were literally speaking "thrown in." Education is needed along this line.

As beginners in reaching out for wider markets for their fruit, Mr. Carey strongly emphasized the importance of so grading and packing the apples so that the first shipments would create a favorable impression. This motto if faithfully adhered to, was sure to bring repeat orders. He also expressed his willingness to come to New Brunswick at any time to demonstrate proper packing systems. He had been highly pleased with the seeming readiness to learn of the growers whom he had met at the show, and the good grace in which they received his criticisms of their various packs and packages.

Geo. H. Vroom, Chief Fruit Inspector for Nova Scotia had stopped off in St. John to see the big apple show. He was on his way home from New Hampshire, where he had been judging fruit at the State Fruit Show. The New Brunswick show eclipsed the New Hampshire Show, he said. He had no hesitation in asserting that the present New Brunswick show was the biggest and best ever staged in the Maritime Provinces.

Mr. Vroom strongly urged to discontinue the growing of varieties that do not do well in New Brunswick and devote more attention to the varieties that can be so perfectly grown here.



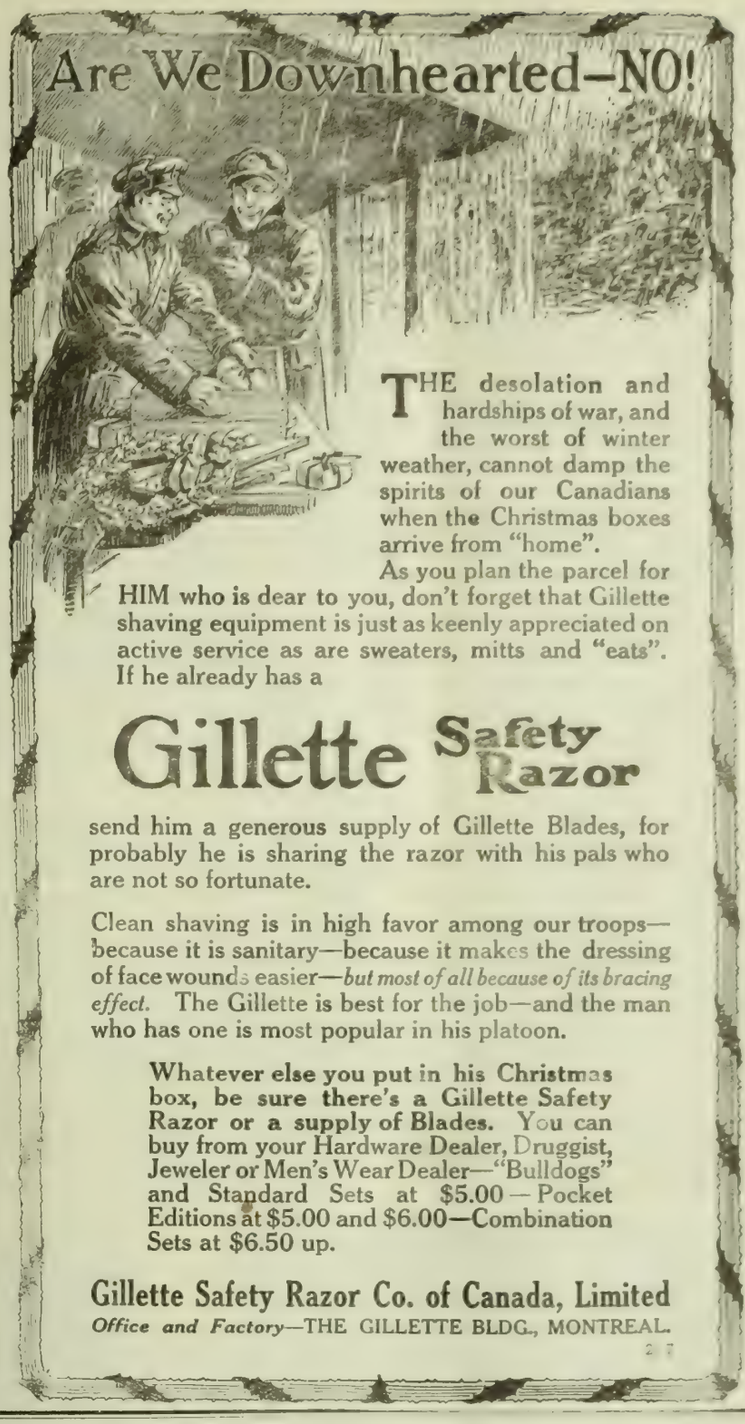
Main Electric Light and Power Plant. To light the farm and country home. Plenty of clean, bright, safe light for house and barn. Runs churn, separator, pump, washing machine and many chores.

T. J. LEWIS, 215 JARVIS ST., TORONTO, ONT.

JERSEY BULLS

Two young Jersey bulls from dams with R. O. P. records. We will sell these bulls at a reasonable price and on condition that the purchaser may return the bull if he is not satisfied with him and we will return the money and pay freight. These bulls are bred right and will get producing stock. Order one you run no risk.

W. C. CLARK & SONS, NORTH WILTSHIRE, P. E. I.



THE desolation and hardships of war, and the worst of winter weather, cannot damp the spirits of our Canadians when the Christmas boxes arrive from "home".

As you plan the parcel for HIM who is dear to you, don't forget that Gillette shaving equipment is just as keenly appreciated on active service as are sweaters, mitts and "eats". If he already has a

Gillette Safety Razor

send him a generous supply of Gillette Blades, for probably he is sharing the razor with his pals who are not so fortunate.

Clean shaving is in high favor among our troops—because it is sanitary—because it makes the dressing of face wounds easier—*but most of all because of its bracing effect.* The Gillette is best for the job—and the man who has one is most popular in his platoon.

Whatever else you put in his Christmas box, be sure there's a Gillette Safety Razor or a supply of Blades. You can buy from your Hardware Dealer, Druggist, Jeweler or Men's Wear Dealer—"Bulldogs" and Standard Sets at $5.00—Pocket Editions at $5.00 and $6.00—Combination Sets at $6.50 up.

Gillette Safety Razor Co. of Canada, Limited

Office and Factory—THE GILLETTE BLDG., MONTREAL.

BELGIUM BEARING HER SHARE IN IT

Governmtnt Is Giving Fifteen Million Dollars Annually to Feed the Hungry People

For the benefit of those who have somehow formed an opinion that those Belgians who are able to help are not helping their destitute fellow countrymen in occupied Belgium it is stated that the Belgian Government, hard put as it is and with its heavy war expenses, is giving $15,000,000 a year to the support of that part of its population which is facing starvation under German rule.

To be sure the British Government is lending a large part of this money but Belgium is assuming the obligation, an obligation which is Britain's as much as Belgium's, for these are the people who fought Britain's battles until Britain was able to account for herself.

It is significant of the unity of these allied countries that they should be working hand in hand thus and it is so that the people of the countries should work. Belgium is a sister nation in distress and Canada, with the others, should help relieve this distress. Seven million of these people are suffering the pangs of hunger—their little ones are dying from starvation—and we must help. The Belgian Relief Committee, with its headquarters at 59 St. Peter Street, Montreal has been organized to assist in this work and to receive your donation. Have you sent it yet? Are you helping Britain and Belgium bear their burden?

Set the separator to take a cream so rich that one gallon will make from three to three and a half pounds of butter.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Jersey Cattle

Gann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls. N. B.

Guernsey Cattle.

T. D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorchester, N. B.
James McKenny, Summerhill Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B
F. W. C. Nase, Nerepis Station.

Ayrshire Cattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac
Hon. W. Owens, 4026 Dorchester
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S

Shorthorn Cattle

W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
Joseph E. Kinsman, Upper Canard, Kings Co N. S.
B. H. Power, Selma, Hants Co., N. S
C. A. Archibald, Truro, N. S.

Oxford Down

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S

Shropshires

C A. Archibald, Truro, N. S

Yorkshires.

R. J. Messenger, Lawrencetown, N. S.
Hon. W. Owens, 4026 Dorchester St., Montreal
Sydney J. Goodliffe, Sussex, N. B

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co N. S.
A. A. H. Margison, East Centreville, Carleton Co., N. B.

White Wyandottes

R. J. Messenger, Lawrencetown, N. S.

HONEY FOR SALE !

Clover and Autumn Honey in pails of 5 and 50 pounds sizes. Warranted pure.

CRAIG BROS.,
AMHERST, - - N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock Lowest prices. Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B

Bred-to-Lay S. C. White Leghorns

A few choice Cockerels at $1.00 each; yearling hens 75c each; one pair Buff Wyandottes from Durand & Shields, Toronto, at your own price or will exchange for Barred Rocks or Leghorns.

ORCHARD HILL FARM
Brown's Flats, N. B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

One Cent a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only one cent a word, you can advertise anything you wish to buy, sell or exchange. The address must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issue. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is one cent a word, each insertion MARITIME FARMER, Sussex,

TEN Shorthorn Bulls for sale. — WALTER EATON, Upper Canard, N. S.

WANTED TO BUY Yorkshire or Berkshire Boar, 7 or 8 months old. State price delivered. A. N McDONALD, South Cove, Victoria Co., N.S

R. I. RED COCKERELS FOR SALE, single and rose comb. Apply to E. C. GRIFFIN, Port William, N. S.

FOR SALE.—Thirteen months old Guernsey bull, dam in advanced reg.—MRS. T.B.BLAIKIE, Great Village, N. S.

FOR SALE—Pure Bred Dorset Ram Lambs. These are sturdy fellows at bargain prices to head your flock. E. A. Howlett, Lake Edward, N. B.

FOR SALE—Registered Berkshire Bore, eighteen months old. C. A. Borden, Schefield Mills Nova Scotia.

PORTRAI AGENTS WANTED.—Send for catalogue. Solar and bromide prints, portraits flax and convex, frames and war pictures.—MERCHANTS PORTRAIT CO., Toronto.

CANADIAN POULURY REVIEW, 39th year of publication. Bigger and better than ever. Departments conducted by specialists. Fifty cents year, three years one dollar. Sample free.—184 Adelaide St. West, Toronto, Ont.

LADIES TO DO PLAIN AND LIGHT SEWING at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

WHEN YOUR TEAM PULLS UNEVENLY

If a team pulls unevenly, does the horse ahead or the horse behind pull the greater amount of the load.

A. L. Ewing, of the Minnesota State College says.

"We demonstrate to our classes in physics that with one type of evener, a type in common use, with clevis pins on a line back of the draft pin, the horse that is ahead has the advantage. We use for this purpose theevener itself or for convenience a pattern made of a one-half inch board of the exact dimensions of an evener.

"The board is suspended from the draft-pin hole where it balances horizontally. Equal weights are now suspended from the clevis-pin holes, when it is found to balance so long as the evener is horizontal, showing that it is an equalizer if the horses are together. It will not, however, balance in an oblique position, but requires a considerable added weight at upper end to hold it in any particular position representing one horse ahead of the other, thus demonstrating that the horse that is behind pulls more than his half of the load.

The effectual lever arm of the hind horse becomes shorter than that of the head horse as he is brought near the line of draft.

"It would, however, be a mistake to assume that the head horse always and necessarily has the advantage, as with one type of evener he actually pulls the most, and with a third type there is no difference in the draft of the two horses, eventhough one is ahead.

"Eveners can be so made that each horse is pulling its share of the load regardless of the position of one being ahead of the other."

FOR SALE!
R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - - CANARD, N. S

Elmwood Stock Farm
Offers for Sale :

Two choice young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

SHEEP !

We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

Eastern Karakule Sheep Co.
Limited
WINDSOR, N. S.

FOR SALE !

Five young Indian Runner Drakes from imported stock. Fifteen Rose and Single Comb R. I. Red Cockerels. A few good Pullets for sale. Write for prices and particulars.

W. S. HENRY,
Shubenacadie, - - N. S.

FOR SALE !

A number of Cockerels from best laying strain S. C Rhode Island Reds, White Leghorns and Barred Rocks. One Rhode Island Red and one White Wyandotte Cock birds. One pure bred Holstein Bull Calf, 8 months old also one pure bred Holstein Cow and several pure bred Oxford Down Ram Lambs.

N. W. EVELEIGH
"The Orchards" Sussex, N. B.

THE KEYSTONE DEHORNER

The Department of Agriculture has found that dehorning cows adds to their milking value. The KEYSTONE DEHORNER is mentioned in the 1913 report (page 131) as the most effective instrument for the purpose. Write for booklet. R. H. McKENNA, 219 Robert Street, Toronto.

90 Acre Dairy Farm $1300
Stock, Tools, Crops Included

Widower sacrifices his desirable, profitable farm near large R.R. town; shoe shop, creamery, canning factories, etc., etc. House of 5 rooms, good barn for 6 cows, large poultry house, splendid trout brook; mail delivered, telephone. Seve al hundred cords wood can be sold with only 2 mile haul. Smooth machine worked fields for potatoes. Owner has lost his wife and he makes low price of $1300 part down. If taken now he will throw in 4 heifers, cow, hens, hay, potatoes, vegetables, wagon, harnesses, machinery and tools. For travelling instructions see page 3 "Strout's Peace and Plenty Catalogue." Copy mailed free. E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

BUTTER PARCHMENT
Printed or Plain, at the Maritime Farmer Office

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Willow Glen Shorthorns

At present offering for sale—3 young Bulls and several Heifers, 1st prize winners in young herd at Halifax, all sired by champion bull, Statley Monarch

A. N. GRIFFIN, - New Minas

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

NOTICE !

to poultry dealers, country storekeepers, farmers or anyone interested in poultry. We are now issuing our weekly price list and will be pleased to send one each week to any person sending their names to

WALLERS', 712 Spadina Ave., Toronto
Crate-fed Chickens a Specialty.

LAWNDALE STOCK FARM
SHORTHORNS AND JERSEYS!

Our present offering in Shorthorns is a young bull, all red, dropped April 10th, 1916 out of the old champion, Merry Maid IV, and a few promising heifers, royally bred, also a very fine Jersey bull calf, out of a great producing dam. He was dropped in August, 1916. Can dispose of several grade Jersey heifers. Write for particulars. **I. M. LOVITT, M. D.,**
Yarmouth North, N. S.

STRAWBERRY PLANTS

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

Try an Ad in the FARMER

THE MARITIME FARMER

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CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, NOVEMBER 21, 1916. Number 4.

Fourth Annual Convention of the New Brunswick Women's Institute

St. John, N. B., Nov. 1, 2, 3, 1916.

Yes, it was the most entertaining and helpful Convention yet held. Some eight or nine Institutes were not represented, but nevertheless there were 127 members in regular attendance, with a number of members coming in for different sessions. All were of the same opinion as regards the practicability of meeting together once a year to discuss and plan future work and listen to the many interesting and beneficial reports, papers and addresses delivered. A feeling of good-will prevailed; new friends were made; old friendships strengthened and "I am willing to do my part" was pictured on every face. How could it be otherwise than a successful Convention?

Let me "begin at the beginning" and I do hope, not being able to go into detail, my report will be the means of helping all the Institutes, but especially the ones not having sent delegates. Really credit should not be given to me for this entire report, as having only a day or two in which to prepare it that it may be inserted in the November number of this Journal I am depending largely on the news given so generously in the St. John papers for my information.

The opening session was devoted to registration and the Supervisor's report which outlined the idea of a Women's Institute. It was for human beings—little children, the feeding of families, the avoidance of waste in homes, housework systematically arranged, furnishing the homes, all of which pertained and intended to develop a higher standard for community life. She urged a co-operative spirit with the Farmer's Institute. By it could be developed a rural social advancement which would rival town improvement, social leagues, boards of health, etc.

The work done during the last year brought forth the congratulations of the Supervisor. The amount collected or raised for war purposes amounted to $16,285.98; the amount expended on Red Cross work totalled $4,189.47, there still being on hand some $300.00 for patriotic purposes. During the year seven new branches were organized and 200 members added to the list. The total number of paid members are 2353; the number of regular meetings held 861; the total attendance at regular and Red Cross meetings reached 12373 and the number of papers read and addresses delivered amounted to 626 during the past year. Miss Winter related some of the methods used by the Institutes to help in their communities, to clean up the town, to encourage the Boy Scout movement, to assist the different institutions and to widen the circle of members.

She also spoke of the advisability of sending reports to the newspapers and the benefit that publicity brings to any good work. How to interest children and girls, and the high cost of living were subjects touched upon. The part women will have to take when the war is ended in building up the Empire should be carefully considered, also why we should buy "Made in Canada" goods.

Mrs. G. A. Kuhring, of St. John, most heartily welcomed the delegates to the city; congratulated all the Institutes on the effective work they were doing, especially of a patriotic nature. She said a very warm feeling of good fellowship existed between the women's societies of St. John and the Women's Institutes throughout the Province. She told with what interest she had watched the growth of the Women's Institute from babyhood to the large and influential organization it has become and wished them continued success in molding the life of this Province of ours.

Mrs. H. E. Ellis, President of the Woodstock Women's Institute, ably replied to Mrs. Kuhring's words of welcome. She dwelt upon the variety and wide scope of our popular organization and reviewed some of the ends which have been achieved through the instrumentality of the Women's Institutes.

Following Wednesday morning's session, a pleasant hour was spent in the afternoon at the Imperial Moving Picture Theatre, when all were guests of Mr. W. H. Golding, the manager. After the theatre party, the members returned to the Germain Street Institute where a delightful social hour was spent with the ladies of the St. John Red Cross Society. Over a cup of ten and dainty refreshments a general exchange of ideas took place and a channel was opened to add to one's list of friends. This social hour was much appreciated by the women of the Institute.

I was so glad to have the opportunity to tell what a perfectly wonderful time I had on my trip to the Canadian West, Alaska and the Western States this past summer. Listen you who were not present,—out of the five New Brunswick girls who won this trip by means of a newspaper contest, three of them were Institute girls. We were the first party of tourists to travel Grand Trunk Pacific right through to Prince Rupert and the trip was a revelation from start to finish. With a splendid road bed, comfortable train and steamer, courteous officials and a jolly party, we had a glorious time and frequently wished our friends could have been along to have enjoyed the many natural scenic beauties we were fortunate enough to see.

"Business and nothing but business" was the slogan for Thursday morning's session. With Miss Ella Thorne, of Fredericton, presiding, who is recognized as an authority on parliamentary procedure, a number of very important subjects were voted upon, discussed, and finally recommended in some instances for the Department of Agriculture to act upon.

Miss Lenna A. MacLean, of Centre Napan, moved, seconded by Mrs. S. M. Fiske, of Florenceville, that the Convention recommend to the Provincial legislature that women other than ratepayers become members of the rural school boards. Several women spoke in favor of this recommendation and one remarked that "the best man on the school board is often a woman." The New Brunswick law in this respect now permits that a woman can serve on the board if she is a ratepayer. Many women most capable to act are not ratepayers so the above recommendation would be a means of broadening the Act.

In the discussion re a Maritime Women's Institute Convention, the ideas of Miss Hazel Sterns, Supervisor for Prince Edward Island, and Miss Jennie Fraser, Supervisor for Nova Scotia, were listened to attentively and upon motion moved by Mrs. James Porter, of Andover, an unanimous vote was passed that a Maritime Convention take place after the war, and a committte composed of the Supervisors from New Brunswick, Nova Scotia and Prince Edward Island, arrange for same.

The next subject to receive attention was "Women's Work at Exhibitions" and the audience was much enlightened on this subject by the remarks from Mrs. John Harvey, of Fredericton, who said it was not so much the fault of the officials, in fact they were to blame very little, but the lack of interest on the part of the women. She urged hem to take a deeper interest and suggested the offering of prizes by the Women's Institutes at the various Provincial exhibitions. The pike show came in for severe criticism.

Mrs. H. D. Cleveland, of Albert, read a resolution adopted by the Toy Conference of Canada to the effect that only Canadian toys be purchased by the women of Canada and moved that the Convention put itself on record as in accord with the resolution adopted at the Toy Conference, Toronto. This was seconded by Mrs. Fiske, but Mrs. Harvey moved an amendment that all British goods as far as possible and Canadian goods

The Women's Institutes' Display at the Recent New Brunswick Apple Show.

The Red Cross in Apples, Red and Yellow.—Advertising booth of W. B. Gilman, Fredericton, N. B., at the Apple Show.

especially be purchased. This carried unanimously.

A resolution suggested by the Women's Suffrage Club of St. John was passed at this meeting, to the effect that women should be appointed on all boards of public institutions, schools, boards of health, etc., and that a copy of this resolution should be sent to the mayors of St. John, St. Stephen, Fredericton, Moncton and other cities, also to members of the legislature and of the governmtnt of this province.

As to Medical Inspection of schools, advocated by Mrs. Porter, the following resolution was adopted; "That it is the opinion of this Convention that medical inspection of schools would be beneficial to the youth of the land, and would advise that members confer with local school boards to bring about this measure." This is already a permissable law, so it is now up to the Women's Institutes to educate the people to the need of medical inspection. The school boards and Women's Institutes should be the means of arousing public sentiment and should co-operate in bringing to pass this important factor in the education of the child.

Ere this business session was brought to a close, Mrs. Porter of Andover, in recognition of her deep interest and valuable assistance in the work of the Women's Institute was unanimously voted a life member of the Provincial Women's Institute. Mrs. Porter was the first President of the first Institute organized in New Brunswick and largely through her efforts the organization was introduced in our Province in 1911.

The first speaker for Thursday afternoon was Miss Hazel L. Sterns, Supervisor of the Prince Edward Island Institutes. She brought the greetings and good will of the members from her Province, and said the Island has 42 Institutes and over 700 members. A supervisor and two assistants visit the branches six times a year, giving practical demonstrations of useful things in the profession of home-making. Great stress is laid on the closer relation of home and school and the use of schools as social centres is urged. Much patriotic work has been done. The short courses held in Charlottetown have been most successful; 200 have applied for next year's classes.

One of the ablest addresses during the entire Convention was that delivered by Mrs. N. W. Eveleigh, the efficient President of the Sussex Women's Institute. Her subject was "Possibilities of Women's Institutts." Said Mrs. Eveleigh, "they are as large as the opportunities which confront our women of to-day, as broad and far reaching as women's resourcefulness, which can convert remote possibilities into glorious achievements." Some of the plans for use fu ness suggested were the introduction of a bride to the Women's Institute, where she might find those who would help her in her new duties of house-keeping; also newcomers to a community should be welcomed and assisted. "Kindness extended to the stranger will return to us years hence in the increased efficiency of the children who are to be our Canadian citizens." Also the interesting of girls in the work, college graduates who have talents, and education which they can share. Conservation was discussed and the suggestion made that vegetable gardens were more profitable than flower raising, and that a pet cow should be made fashionable rather than a terrier. School children can be enlisted in the work of farming and can give much valuable help. Interest must be taken in school for the future children must be fully equipped to meet the after-the-war problems.

There was just the one demonstration given at the Convention. Miss Ada B. Saunders, Assistant Supervisor, demonstrated setting the table properly and serving a three course dinner without a maid. Her table was attractively arranged; the china was gold and white, and yellow flowers were used for decoration. Miss Saunders took for her text, "Simplicity and Perfection," and clearly impressed her audience with the fact that wholesome, well-cooked food served in an attractive manner is the motto for every housekeeper.

"Aim to be something with all your might" was the excellent hint given ing she presided. Miss Lenna A. by Miss Celia Peck during the evening she presided. Miss Lenna A. MacLean, of Centre Napan, read a very instructive paper for women on self-supporting. Miss MacLean said that country girls were invariably induced to go to cities because there was no way for them to earn a livelihood at home. The homes were very comfortable but the girls longed for the opportunity to become independent. As a means towards this end, Miss MacLean suggested canning and preserving clubs, the making of pickles, the cultivation of plots of ground, raising green groceries, sale of home-made delicacies which are always in demand,—cake, bread, candy, etc. Roadside tea-rooms, with gift-shops are almost always successful if well run. These practical suggestions were concluded with "the girl who thinks out what she wants to do then works, will win."

The rear end of St. Andrew's Rink, St. John, Apple Show week.

An address which was full of significence both from a social and commercial standpoint was that delivered by Dr. W. C. Keirstead, of the University of New Brunswick, who took as his subject "The Use and Abuse of Movies." Closely linked with the same subject was the address given by Mr. S. A. McFarlane, of the Provincial Normal School, who spoke on "Physical Culture as a Character Builder." These two features of the evening concurred in making the session one of the most profitable and interesting of the Fourth Annual Convention.

Dr. Keirstead said there is a great field for the movies providing stricter censorship. Many schools throughout the United States have moving picture machines of their own and throw on to the canvass the cities and places in foreign countries of which the children have been studying. He advocated the scheme of the mothers getting together for the purpose of procuring pictures from film exchanges that would be of educative value to the children, and then co-operate with the theatre managers and get the privilege of producing the pictures once a week at a small cost. He was also of the opinion that better results would be obtained if there was a federal censorship instead of a provincial. What passed for one province was good for all. The speaker advocated a woman being on the moving picture board of censors. A fine article published in the Christian Science Monitor was quoted from. Children's special programmes were advocated and the Women's Institute urged to lend their influence towards the betterment of the movies.

The effect that physical culture has on the uplift of the race was pointed out by Mr. McFarlane, who said that physical culture was now taught in every public school in the dominion. The purpose of physical training is not to fit the child to perform certain more or less difficult exercises, but to give him a stronger and more healthy body; to help in the production and mind, and aid him to approach more nearly to the ideal of perfect physical development. Physical training does not of itself impart strength. It only stimulates the various organs of the body to grow larger and stronger; but if overdone it has just the contrary action and produces weakness instead of strength. By means of the physical training rightly taught, the natural power of expressing thought, feelings and ideas by means of the bodily movements is encouraged and brought out. Physical culture develops quick obedience, and, said Mr. McFarlane, "if we teach our childrtn obedience at least we have accomplished something."

Miss Lilian Harren, St. John, was the first speaker at the morning session on Friday and delivered a short but interesting talk on "Classes in First Aid and Home Nursing". The Saint John Ambulance Association was a branch of the Red Cross Association of St. John of Jerusalem and the name had come down from medieval times. It was organized in Canada in 1910. The Ambulance Association does not intend to rival the skill of the physician, but to supplement his work. Thousands of lives had been lost through nothing beink known about how to apply a simple bandage or tournquet. Classes on First Aid and Home Nursing are flourishing in New Brunswick at the present time, and bandages, charts, instruction books and splints may be had by different towns on applying to the speaker for the purpose of organizing First Aid branches. To obtain permission to form an ambulance class $4.00 would be required to be sent to Miss Hazen by the proposed class as a whole. Three dollars of this amount is forwarded to Ottawa. An additional expenditure by each member of 55 cents, 35 cents for instruction book and 20 cents for bandage is all that is required. Any number under thirty may apply to be admitted as a class. A great number of assistant nurses have gone overseas from the Ambulance Association as assistant nurses. Miss Hazen thought possibly the Women's Institutes would like to form classes and she will be only too glad to give further information and supply literature. Her address is 95 Coburg Street, St. John.

It was a pleasure for us to have Miss Jennie Fraser, in charge of the Women's Institute work in Nova Scotia, with us again and all were greatly interested in what she had to say about the progress her Province is making in this splendid organization. Miss Fraser said since the outbreak of the war the Women's Institutes in her province had joined forces with the Red Crosses and the Daughters' of the Empire in patriotic work, and until December, 1915, had raised the sum of $7,970.32 for Red Cross, Patriotic and British Red Cross funds; $1500.00 for motor ambulance; had sent 162 boxes of supplies and contributed $692.27 to the Belgian relief fund. One Institute alone raised $1,001 and a small Institute $528.24. In August of last year in the County of Annapolis, through the urging of the Women's Institute, a large demonstration agricultural building was erected by the Farmers' Association of Annapolis county, the County Association and the Department of Agriculture. The building has a large assembly hall, a demonstration room in the rear and rooms for men and women organizations. Two successful courses have been given to men and women since last fall, and the average attendance was about one hundred. The building represents the social and practical sides of life and more buildings of a like nature would keep the youth of the province at home after the war.

Mrs. John A. McAvity, President of the St. John Red Cross Society, gave a very helpful talk on the work of the Red Cross Society. She dwelt upon the needs of the soldiers and said that socks and pyjamas were especially needed. Mrs. McAvity showed a model comfort bag and answered many questions touching upon the Red Cross work. By writing to Mrs. McAvity, 58 Orange Street, she will be glad to answer any further enquiries and forward any literature dealing with Red Cross work.

Friday morning's programme was concluded by Mrs. James Porter conducting a Model Institute meeting. The members answered roll call with quotations; the secretary read the minutes of the previous meeting. Reports from various committees were then given and under "new business" the advisability of implanting a rest-room in the town was discussed at considerable length, with the result that a motion was passed, an amendment made to the motion and an amendment made to the amendment, the latter being voted upon first, then the amendment and finally the original motion carried. For the entertaining part of this model meeting, Mrs. Herbert Trites, of Petitcodiac, recited "Brother Jonathan," and Miss McLauchlan of Buctouche, nicely executed a piano solo. Keen interest was taken in this "meeting within a meeting."

Dental Education as applied to Women's Institutes" was a subject allott-

ed to Dr. R. B. Hagerman of East Florenceville, and his paper was splendid in every way. The lack of knowledge of dental science was shown to be very general. The absence of care given to the teeth, the evil result of this neglect and the remedy were pointed out by the speaker. It would be a splendid thing to have a dental inspector in the schools and New Brunswick is far behind the times in this respect. Dr. Hagerman gave directions for classes in dental science, how they could be formed in city, town or village and that there are lectures and slides available for such classes. He suggested that the Women's Institutes might undertake this work.

Throughout the sessions Mr. Gordon Rogers, of Ottawa, secretary to Dr. F. Montozambert, C.G.M., director-general of public health and sanitary advisor of the Dominion Government, had been heard from several times in some excellent readings, most of them humorous, but after hearing his educative paper on "Home and School Sanitation" one could readily understand that there was a serious side to his nature. His paper showed careful thought and preparation and Mr. Rogers, who long since has won an enviable reputation as an excellent reader, held his audience from beginning to end and gave some good, sound advice. In the course of treating his subject he laid down the following as the principal rules for the prevention of germ diseases: Destroy the germs that come from the bodies of the sick; take care of wounds, protect yourself from biting insects, guard the mouth and nose, and keep the body healthy so that it will be able to kill disease germs. He said that the great reason why indoors people are not nearly so well in the winter as in the summer is due simply to the fact that in the winter they are breathing bad air nearly all the time.

As a prescription that would not necessitate one as a sequence from a doctor, he gave this: Fresh air, pure air, nourishing food, dry feet, warm feet, and plenty of sleep, especially for growing children, and enough exercise.

Taking up another phase, Mr. Rogers said that on the skin and in the throat of most persons, at all times, germs that cause disease may be found. They attack different membranes and different organs, and he emphasized the fact that the man who abused the use of alcohol has mighty little chance against the poison of the germ of pneumonia, but at the same time there is little doubt that the resistance of the body in a large percentage of cases has been largely weakened by a lack of fresh air. It is a commonly accepted and well known fact that alcohol lowers the vitality.

Mr. Rogers citied the report of a professor from Columbia University, who had made an investigation of the school conditions in Canada. The report showed that old buildings, bad buildings, neglect of premises, weed grown yards, unsanitary outhouses, no water supply, bad lighting, and bad heating, dirt and overcrowding were among the most glaring defects.

Among his closing remarks he made assertion that the child should be led to expect health and happiness, and instead of being taught to resignedly accept suffering, the child should be taught to demand health and to have a pride in physical vigor and well being rather than in fortitude under pain.

It would never do to conclude this information about our Convention without referring to the many branch reports read at different times during the sessions. They were brimming over with activity and invariably gave results of the splendid work being accomplished for home and country. It was a disappointment to all that only about half of the Institutes were heard from, but time would not permit of any more being read.

A piano solo here, a vocal solo there with occasional readings made each session that much more entertaining. There was a general exchange of programmes and Women's Institute literature. An Autograph quilt on exhibition attracted much attention. This was the work of the Glassville Women's Institute and netted for them the sum of $30.00. In addition to autographs neatly inscribed in ink, many of New Brunswick's animals were represented in different places on the quilt and much credit is due the artist in the Institute for the excellent ink drawings.

There was also a very good exhibition in handicraft at the Convention rooms, including basketry, with several fine trays of native wood, the edges of woven reeds stained. Stencil work in artistic designs was shown on crash used for centrepieces, pillow tops and table runners. Some tooled leather articles were included in the exhibit and the entire display was the accomplishments of the Women's Institute members while attending the 1916 Winter Short Courses. Some articles were sold and more could have been disposed of if the owners had been willing to sell them.

Following the interesting discussions resulting from the Question Box, Miss Thorne moved a vote of thanks to the Supervisor and all who had assisted in any way in making the Convention such a help and so successful. This motion was quickly seconded. The Convention also declared itself in favor of governments and cities giving every preference to returned soldiers in making appointments to positions of any kind. The One Hundred and Thirty-five Dollars left over from the Ambulance Fund was voted to be donated to the Canadian Red Cross Society.

The Apple Show which was held on the same dates as the Convention attracted large crowds and was declared to be the best Apple Exhibition ever held in New Brunswick. This was held in St. Andrew's rink and on the left of the entrance was tastily arranged a splendid array of collections of home grown, preserved and canned, dried and pickled or put up in any way intended to prolong keeping qualities for food purposes, fruits and vegetables, displayed for competition by the Women's Institutes of New Brunswick. The Institutes taking part in this competition, and the number of jars in the respective collections were as follows, the first six in their respective order being the prize winners:

1st, $14.00, Sussex,	58
2nd, $12.00, Lower Millstream	37
3rd, $9.00, Florenceville	25
4th, $7.00, Lower Kingsclear	43
5th, $5.00, Hopewell Hill	14
6th, $3.00, Kennebecasis Valley	35

Codys 14; Lake George, 23; Stonehaven, 34; Newcastle, 13; Minto, 11; Smith's Creek and Newton, 24; Blackville, 28; Hartland, 7; Salmon Beach, 7; Poodiac and Jeffry's Corner, 18; Hammond and Marknamville 12; Albert, 18; Welsford, 28; Leverville, 20; Andover, 44; Clifton, 17.

The box exhibits at the N. B. Apple Show.

Advertising Booths at the Big N. B. Apple Show.

POTATOES FOR CHEAP FEEDING

At first glance the reader will naturally repeat "Potatoes for Cheap Feeding?" His mind will revert to the recent market reports from some sections of the Maritime Provinces, where prices have soared to $4.00 per barrel and prodictions are out for the five dollar mark before our next crop is harvested.

However, when we refer to potatoes for feeding, we invariably refer to potatoes of unmarketable size and quality. How to dispose of them to best advantage is a problem that often confronts the extensive growers.

Potatoes not only have a high food value, but medicinal properties as well. The following extracts from a bulletin published by J. W. Helme, State dairy and food Commissioner for Michigan, will interest our readers:— Potatoes at from 35c to 40c a bushel are the cheapest form of starch food, and starchy foods are absolutely necessary to the human system for a production of heat and energy.

Nearly 5 percent of the dry substances of the potatoes consists of salts, largely potash. These salts have the medicinal properties of purifying the blood from acids produced by the eating of meat, which, in the human family, is the chief cause of hardening of the arteries, gout, rheumatism, Bright's disease, and apoplexy. These salts are located just under the skin of the potato for which reason potatoes should not be pared before cooking.

The comparative nutritive value of potatoes is as follows: One pound of baked potato has the same food value as five and seven-eighths ounces of beef, one pound of chicken, 10 pints of beef tea, or seven ounces of bread.

It has been known for some time that if hog rations were occasionally varied with the feeding of boiled potatoes, that there was no tendency to hog cholera or other of the common diseases of the hog family. In fact, R. A. Heesen, manufacturer of the well-known Heesen Stock Food Cooker, whose experiments over the last two or three years almost qualify him as an expert, states that he believes that if a farmer will feed a balanced ration of cooked feed, which includes an occasional feeding of boiled potatoes, that he can almost guarantee that there will be no hog cholera or other diseases of like character on his farm—that his stock will fatten faster, and be ready for the market sooner, at a less cost than by any other method.

From the facts we have at hand, it certainly seems as though this method was worth trying.

NEW LIVE STOCK COMMISSIONER FOR NEW BRUNSWICK

The resignation of Professor J. W. Mitchell from the agricultural staff of the Province of Manitoba, who has accepted a position upon the staff of the Department of Agriculture in this Province has evidently created quite a stir in the western province. The following appeared in the columns of the "Manitoba Free Press" on October 26th:—

"St. John, N. B., Oct. 26.—By Order-in-Council passed to-day, Prof. J. W. Mitchell, Manitoba, was appointed Commissioner of Livestock and Dairying for the Province of New Brunswick.

"This dispatch was received in the Free Press office last evening and on communicating with Prof. Mitchell at his home in Fort Rouge, he confirmed the dispatch as correct.

"Intimate friends of Prof. Mitchell have been feeling very uneasy for the past ten days, for about that time J. B. Daggett, Secretary of Agriculture for the Province of New Brunswick, a position corresponding to that of Deputy Minister, was in Winnipeg and had several long conferences with Prof. Mitchell, and as he let drop that his province was looking for a good dairy man, it was feared that they were casting covetous eyes in the direction of Winnipeg, and now it seems that the forebodings of the dairy men were only too true. Prof. Mitchell, when asked for confirmation of the appointment, admitted that it was a better one, financially, than that which he now occupies, and while he regretted leaving the west, he looked forward with considerable pleasure to renewing old friendships in the Maritime Provinces, and carrying forward still further work which he set going when he was Dominion superintendent of the dairy work in the Maritime Provinces from 1901 to 1903."

"The editorial columns of the Farmers' Forum has always tried to do something like justice to the valuable work which Prof. J. W. Mitchell has done for dairying, and now it is hardly necessary to say how deeply we regret his removal from the province. There is something wrong with our province somewhere when little old New Brunswick can offer a live progressive man like Prof. Mitchell a more attractive proposition than a new province like Manitoba. What's wrong with us anyway? We are always losing good men out of our public work, either to the east, the further west or the south."

The "Winnipeg Tribune" of October 26th contains the following tribute to the worth of Professor Mitchell:—

"Professor J. W. Mitchell, head of the dairy school at the agricultural college and commissioner of dairying for the province of Manitoba, announced Wednesday he has accepted the position of commissioner of livestock and dairying for the province of New Brunswick.

"Negotiations were conducted by J. B. Daggett, Secretary of Agriculture for New Brunswick, who has been in Winnipeg for the last few days.

"Professor Mitchell has had a distinguished career. From 1896 to 1899 he was instructor of dairying at the Ontario Agricultural College at Guelph. From there he was sent west by the Dominion government as dairy superintendent for Saskatchewan and Assiniboia territories. In 1901 he was transferred to the Maritime Provinces and later he became principal of the Kingston dairy school.

"In 1908 Prof. Mitchell came to Manitoba. He improved the reputation of Manitoba butter with such success that now it is exported to the British market extensively. He introduced grades for cream and butter fat to protect the public."

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. When paid in advance 80 cts. Persons taking advantage of the 80 cent rate are only entitled to it by paying in advance each year. When subscription gets in arrears, $1.00 per year will be charged. Subscribers are requested to bear this in mind. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

OUR GUARANTEE.—With each subscriber to the MARITIME FARMER, we positively guarantee, while his subscription lasts, that no advertisement is allowed in our columns unless we believe that any subscriber can safely do business with the advertiser, and we agree to make good any loss which any such subscriber may sustain by trusting any such advertiser who may prove to be a deliberate swindler; but we do not undertake to adjust trifling differences between subscribers and responsible advertisers. To take advantage of this guarantee, written complaint must be made to the publisher within one week from the date of any unsatisfactory transaction, with proof of the swindle and loss, and within one month from the date when the advertisement appeared, and the subscriber must prove that in writing to the advertiser he said :—"I saw" your adv. in the MARITIME FARMER.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

NOVEMBER 21, 1916.

DATES OF ISSUE.

December ..... 5—19

WHAT A MAN SOWETH.

In season and out of season the Maritime Farmer has persistently advocated the use of good seed and repeatedly explained the methods followed by our most progressive and thoughtful farmers, for setting a sufficient quantity of their best grain aside for seed purposes.

An old scriptural adage says: "What a man soweth, that shall be also reap". In every day parlance this means that if a man soweth good seed, other conditions being favorable, he may expect to reap a bountiful harvest. But under the same conditions if poor seed is used, just as surely as day follows night, the harvest will be unprofitable. The use of good seed lessens the cost of production and this is what every farmer should aim for in the present time of strain and stress.

Of so vital importance to the success of farming is this question of good seed, that we again bring the matter to the attention of our readers.

Now is the time to get the fanning mill rigged up and the seed well cleaned before the rush of spring work begins. In too many cases this is put off until the last minute, and then there is not sufficient time to do the work thoroughly. Sometimes it is put off altogether, and the seed sown just as it comes from the threshing machine.

The first business of the fanning mill is to take out the weed seeds, and if properly handled, nearly all the mills on the market will do the work well.

Every weed seed that is taken out of the grain means so many less weeds in the field, a fact that is worthy of remembrance. The fanning mill also takes out all broken straws and chaff so that the grain will feed readily in the drill.

Authorities are doubtful as to the value of the fanning mill as a means of improving the quality of the seed itself. Experiments conducted in the United States have shown practically no increase in production in favor of the use of large, plump seed. However, the yield from the large seed was always as good as that from the lighter seeds. In this country, where we are subject to late frosts in the spring, we believe that results of experiments along these lines would be in favor of the large seed for the reason that the young plant would derive more food from the kernel, and thus be stronger, until it was able to assimilate food from the soil.

While the use of the fanning mill will not improve or increase the productive power of our grains (this must be done by hand selection) it is a useful and indispensable agent in keeping our seed free from noxious impurities.

So clean, re-clean and clean again your seed grain, and—do it now. Make it your stormy day job. It pays.

WHEN FARMS PRODUCE MORE.

It is a fact, as shown both in this country and in Europe, that no section has ever maintained its wealth in agricultural products for any considerable length of time without animal husbandry as the main industry or to supplement general farming. True, when a section of the country is first brought into cultivation the soil, being virgin and very fertile, may produce in abundance and it would appear that fertility is exhaustible. But experience teaches that crops, when they are sold and removed from the farm, soon reduce the humus and fertility constituents so that the land no longer produces profitably.

Animal husbandry is necessary for permanent fertility. It is essential to general farming in that it reduces waste, obviates the necessity of marketing such bulky products as hay, fodder, grain, etc. It distributes labor, in many instances providing work for the men and teams when crops do not demand attention.

The problem of feeding the people is the greatest with which we are confronted. We have advanced so fast in city production and industries other than farming that food production has not kept pace. Without an abundance of food no people can make great progress, nor can they remain in peace and contentment. Our farms are now required to supply the people with meat as well as bread. In the West ranches have been converted into farms in many sections. The sudden transition from ranching has diminished the supply of livestock faster than the small farms can meet the deficit. This means that if our section of the country is to maintain its standing plans must be provided for raising more animals on small farms.

Before this can be accomplished more feed crops must be produced. More feed stored and more animals fed. This will mean greater investment, as livestock represent considerable capital; barns, creameries, dairies, silos, etc., must be built. This will require cooperation on the part of the banks and other business men, but it is cooperation that will build. Capital wisely invested in livestock, silos and other farm building means more wealth not only for the producer, but for the country. It means larger crops, better profits, better schools, good roads and progressive agriculture in all that it signifies.

AWAY WITH THE DOGS.

An Exchange says:—

"Undoubtedly the question of cost of fencing and shelter is the greatest objection to sheep raising on the average farm."

To this we would add raids by worthless dogs. While conversing with a prominent sheep breeder in the vicinity of Sussex, a day or two ago, one, who by the way brought in the most wool to the local wool growers centre last spring—he told us that he had disposed of his entire flock owing to the ravages of dogs during the fall and summer months. Discouraged? Yes, discouraged by seeing his best ewes and lambs torn, bleeding and dead and the profits expected and in sight, wiped away by the ravages of worthless dogs that are so safely entrenched behind a worthless dog act. Like Lincoln's immortal "Are slave owners the best lawgivers on slavery?" it seems that dog owners are the law givers for the protection of the sheep industry, and consequently the sheep industry is waning while the mangy curs are rolling in luxury. The situation is critical and calls for an immediate remedy. Save the producing industry by doing away with the blasted dogs.

VEGETABLES NECESSARY TO HEALTH.

Sixty-two per cent of the patent medicines sold are patent laxatives. If people regulate their diet proprly and include more green stuffs they will not need laxatives. Seventy-five per cent of the people do not eat enough vegetables to keep them well. Some doctors estimate that sixty per cent of the deaths are due to indigestion, constipation, and effects which follow.

If we can the fruits and vegetables from our own farms, which would otherwise go to waste, we shall have a supply for use on our own table—foods which we need to keep us healthy and make us grow strong—and we can have a more varied and so more pleasing diet. Why should we eat only meat, bread and potatoes three times a day, 365 days in a year?

Those who grew vegetables should use their produce. When there is so much want in the world it is selfish and wicked to let any good food go to waste.

If there is more than is needed for use at home, it may be sold.

Sometimes it is hard to sell garden produce fresh, because everyone has all he can use. But if the produce is canned and put on the shelf until the fresh vegetables and fruits are gone, then people will be glad to pay a good price for the canned foods.

UNDERDRAINAGE.

Not a few men fail to perceive just what underdrainage really is and what it accomplishes. Owning rolling land they remark that they need no drains, since the water readily runs off of their land. But that, indeed, is exactly what we wish to avoid—the running off of water. On well-underdrained soils the water sinks in and is steadily discharged by tiles; the excess water is taken out of the land. It is to get the excess of water out of the soil that we underdrain. Underdrained land is less dry than undrained in time of drouth. This is because the soil gradually deepens, the roots extend farther downward and so all the soil is better used. There are yet thousands of acres in the Maritime Provinces needing underdrains of tiles. We attacked the marshes first, as was best. Now remain the undulating lands which in many instances will be more profitable when underdrained.

Editorial . .

* * *

In figuring the returns from sheep, the lambs and wool are not the only legitimate sources of profit. Sheep are continuously at war with weeds of all kinds. Only when they lie down together—with the weeds inside—is there peace. It is impossible to place a money value on this service which they render.

KINGS COUNTY, N. B., CROP GROWING COMPETITIONS

Following is a list of scores in the 1916 Kings County Crop Growing Competitions.

Oats

H. N. Flewelling, Apohaqui....95.2
W. E. Wallace, Penobsquis....95.4
W. H. McLaughlin, Lr. Millstream 95.2
J. H. Manchester, Apohaqui....94.3
Chas. Erb, Sussex.....94.1
Thos. A. Reardon, Sussex.....93.6
Kenneth Raymond, Bloomfield
E. RoyRaymond,Bloomfi ldSta..93.3
Sta. 93.3
E. Roy Raymond, Bloomfield
Sta. 93.3
H. B. Parlee, Sussex.....93.2
H. S. Secord & Sons, Penobsquis 93.0
N. W. Eveleigh, Sussex.....92.7
Jas. E. Hoyt, Hampton.....92.5
J. T. Prescott, Sussex.....92.0
J. A. Floyd & Sons, Bloomfield.91.8
Lester Walker, Lr. Millstream..91.7
H. R. Monager, Sussex Corner.91.5
Geo. L. Slipp, Sussex.....91.4
Chas. Carruthers, Sussex.....91.3
Edgar Patterson, Sussex.....90.5
W. Malling, Bloomfield.....90.4
J. V. McKenna, Sussex.....90.3
Jas. McElroy, Sussex Corner....90.2
Thos. Bell, Rockville.....88.3
J. Titus Barnes, Apohaqui.....87.8
Hugh McElroy, Sussex Corner..87.3
W. F. Mosher, Sussex.....86.1
E. O. McIntyre, Sussex.....81.0

Barley

W. J. King, Smith's Creek....95.1
J. Titus Barnes.....93.2
H. B. Parlee.....93.0
W. E. McLaughlin.....92.9
F. Leslie Walker.....92.0
J. E. Hoyt.....85.8

Wheat

Chas. T. McIntyre, Sussex Corner 97.2
H. S. Secord & Sons.....95.0
F. Leslie Walker.....94.0
W. E. Wallace.....93.2
W. J. King.....91.6
J. Titus Barnes.....89.9
A. J. Marr, Newton.....88.3
Thos. Bell.....86.5
W. F. Mosher.....86.3

Buckwheat.

A. O. Titus, Bloomfield.....98.8
H. B. Parlee.....95.8
E. Roy Raymond.....94.8
J. Titus Barnes.....94.7
Jas. McElroy.....94.3
W. E. Wallace.....94.2
F. Lester Walker.....93.7
W. E. McLaughlin.....92.2
W. F. Mosher.....92.0
C. T. McIntyre.....89.4
Chas. Carruthers.....87.8
Wm. Eveleigh, Sussex.....86.1

Turnips

J. A. Floyd & Sons, Bloomfield 93.65
W. E. McLaughlin, Lr. Millstream, 92.29.
F. Leslie Walker, Lr. Millstream; 86.60.
H. S. Secord & Sons, Penobsquis, 85.80.
J. Titus Barnes, Apohaqui 85.00
Thos. A. Reardon, Sussex 84.00
N. W. Everleigh, Sussex 82.60
Edgar Patterson, Sussex 82.25
A. P. Colwell, Bloomfield 80.65
C. T. McIntyre, Sussex Corner 80.30
Wm. Erb, Sussex 80.05
W. F. Moshen, Sussex 79.40
J. T. Prescott, Sussex 79.20
Joseph Barnes, Sussex 78.60
Chas. Carruthers, Sussex 77.65
Hugh McElroy, Sussex Corner 77.55
Wm. Buchanan 75.55
Thos. Bell, Rockville 75.00
Geo. L. Slipp Sussex 72.90

J. E. McCOLLUM Judge.

POTATO SEED BALLS.

In our issue of February 22nd, we published an article from the columns of Literary Digest entitled "Wanted—Potato Seed." We have received several letters recently from parties in the Maritime Provinces who read the article in question and who have secured a quantity of potato seed balls in their fields this fall.

Edward F. Bigelow, writing in The Guide to Nature (Sound Beach, Conn., January) says that the plant Wizard, Burbank, of Santo Rosa, California, explains that "Potatoes have been grown so long from cuttings that they are getting out of the habit of producing seed. Seed for breeding purposes is in demand and worth six dollars a thimble-full when the thimble-full can be secured.

Professor Gully of the Connecticut Agricultural College, Storrs, Connecticut, made the assertion thirteen years ago that "all the fruiting berries of the potato have disappeared from the State. I will given twenty-five dollars for one found in Connecticut."

Mr. Bigelow says that he has searched in vain to prove that Professor Gully is wrong, but he must limit his claim to Connecticut. Although it would not cost him a fortune should be extend to the United States in general."

Mr. Bigelow offered a year's subscription to The Guide to Nature for a box of well developed seed-balls, before conventions of over 2000 teachers in Ohio, Indiania and Pennsylvania. The announcement was received with surprise and the remark: "We can send them to you by the bushels. We will bankrupt you on subscriptions."

Nevertheless, only a dozen responded and no package contained more than eight or ten balls, and nearly all of these were vestigal. The writer says that in thirteen years not more than thirty large, smooth, round, perfect specimens have reached me. As a result of my efforts during the past summer, I have obtained at a cost of six dollars, less than a thimble-full of seed.

The Department of Agriculture of the State of Maine says:—

"'I do not know of any one at present who is experimenting in growing potatoes from seed. The season has been so bad here in southern Maine that I have not seen any mature seed-balls. I have some at home in a little vial, probably several hundred. These are several years old, and I do not know whether they would germinate or not.'....

"The more extensive the correspondence the more one is inclined to agree with the great Dreer seed-house of Philadelphia when it writes:

"We regret to say that we are unable to furnish you with the potato-balls and do not know any source of supply for seeds.'

"Readers, this is an alarm-cry. Potato-seed is going from this country. All that can be obtained should be put at once into the hands of competent experimenters.

"What are we going to do when the present varieties of potatoes have 'run out,' and no more seed can be obtained?"

Seed selection must play an important part in the future development of the potato crop. It is a work that is worth while and we strongly recommend to our readers the advisability of getting in touch with the Canadian Seed Growers' Association, Ottawa, and learning from it the best methods to pursue in the selection of seed potatoes.

While attending the Yarmouth Exhibition last month we had the pleasure of meeting Mr. Jas. Rozee of Yarmouth, who is conducting experiments on growing potatoes from seed-balls.

In the spring of 1915 Mr. Rozee planted the seed from one potato ball taken from a Green Mountain vine and in the fall he harvested fifty very small potatoes of various shapes that totalled 3½ ounces in weight. As many of these as survived the winter were planted in the spring of 1916 and this fall he harvested therefrom thirty-five pounds of potatoes. Many of the potatoes were of excellent type and of marketable size. Mr. Rozee will continue his experiment in 1917, with the various tpyes thus produced.

There were some excellent Green Mountain types, then there were some types similar to that of the Irish Cobbler, and again some of the specimens were long and narrow and some dumb bell shaped. All these types produced from seeds, contained in one seed-ball, for when we plant potato seed it is like planting apple-seeds, for we do not know what will happen. The seeds seem to become insane and try to produce a little of everything. Fortunate is the experimenter that finds in the varied potato-seedlings some particular form that may be better than the original.

We will ask Mr. Rozee to describe his experiment more fully in a future issue.

In the meantime the readers who are interested in the seed-ball question would do well to communicate with the various parties mentioned in this article.

Milk may become contaminated in many ways, and anything that we do to keep dust and dirt out of the milk-pail means milk of better flavor and better keeping qualities.

SOME FLEASURES OF RURAL LIFE

A well-kept garden on the farm will supply fresh fruits and vegetables for the table.

NEWS ITEMS FROM THE AGRICULTURAL COLLEGE, TRURO, N. S.

The winter session of the Agricultural College at Truro, N. S., opened on Nov. 1st. The enrolled attendance to date is 49, being composed of 15 seniors and 34 juniors. A considerable addition is expected before the term concludes, but, even as it is, the attendance is very satisfactory indeed, and fully up to the expectations of the faculty. Included in the student body are students from New Brunswick and Prince Edward Island as well as from Nova Scotia itself.

The College live stock is in magnificent shape at the present time. There are several Holsteins that are making over 75 lbs. of milk per day, and among the Ayrshires is a two year old heifer that is now milking on her third month and still gives 50 lbs. per day, having given as high as 54 lbs. in one day. Bonnie Jean, one of the College Ayrshire cows, in fact the dam of the stock bull at the present time, has completed the third month of her present lactation period, and is still giving over 60 lbs. of milk per day. Jean Armour's Lotus Laddie that was selected jointly by the College management and C. P. Blanchard to head the Ayrshire herds on their farms is developing splendidly. His uterine sister, Jean Armour 3rd. has recently broken all previous records for the Ayrshire breed, having made a three year old record of 21,938 lbs. of milk and 849.18 lbs. of fat with an average percent of 3.88 fat. Jean Armour herself, the dam of the College bull, and of Jean Armour 3rd. was the first Ayrshire cow in the world to give 20,000 lbs. of milk in a year, and she did this when she was twelve years of age.

The arrangements are now being completed for the short course which is to be conducted from Jan. 2-11 next, an advertisement of which appears elsewhere in this number. The College management have been very fortunate in securing as the special extra attraction for the course the services of Dr. C. A. Zavitz of Guelph, who is recognized as America's leading field crops expert. It will pay farmers from all parts of the Maritime provinces to come to the College if for no other purpose than to take in the course of lectures and demonstrations by Dr. Zavitz, especially when in addition to this they will have the opportunity of seeing and judging the magnificent collection of live stock owned on the College Farm and receive instruction in Veterinary Science, Horticulture, Dairying and the Allied subjects. Those who can spare the time cannot afford to miss the opportunity.

The College has suffered a severe loss in the death of Professor B. H. Landels who was in charge of the drainage and experimental field crops work. He enlisted over a year ago and went to the front with the rank of Sergeant with the famous Princess Patricias. He was promoted on the field to the rank of Lieutenant, and is now reported missing and believed killed. One of his fellow officers says that the last he saw of Landels was when, at the head of a group of men, he was making a charge on the German trenches. His fellow officers and the men in the ranks all held Lieutenant Landels in the highest esteem. He was one of the strong men on the College staff and was universally appreciated and respected.

HORTICULTURE

LEAVES FALLING IN UNSPRAYED ORCHARDS BEFORE THE SPRAYED

In comparing the fall of the leaves in the sprayed and unsprayed orchards, we may at this time of the year see the reason for one orchard having a full strong bloom next spring while the next orchard may have a short weak bloom. Other conditions, such as cultivation, being equal the sprayed orchard will invariably hold its leaves later in the fall and so develop a stronger better fruit bud for the following spring. One of the best instances of this was in Prof. Brittain's Experimental orchard at Bridgetown last season. In 1915 ten sprayed Golden Russett trees gave a crop of apples worth $2.46 per tree and held their leaves until Nov. 5th, while ten unsprayed Golden Russett trees in the next row averaged 69½ cents worth of apples per tree and dropped their leaves about Oct. 20th.

This spring the ten sprayed trees had a fine full coat of blossoms while the unsprayed trees had practically no bloom. The cultivation and the fertilizing in the two rows has been identical for three years.

It is unseasonable to expect a tree which drops its leaves early in the fall to form as strong and as healthy fruit buds as the tree which holds its leaves until the frost kills them. Spraying, therefore, not only keeps the crop of the current year clean, but it increases next years crop more than any other single factor. This is the reason why men who spray continuously and well are almost without exception getting continuous crops of apples, while their neighbours who do not spray may have one enormous crop followed by two or three off years.

Compare some orchards in regard to the dropping of the leaves.—G. E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S.

CHOOSING SEED POTATOES

The question of choosing seed potatoes is sometimes a puzzling one. It is hard to decide whether it will be the most economical to select the smaller ones so as to save the larger ones for market or home use, or whether to select good-sized tubers for seeding. The fact that the small seed potatoes produce a much smaller tuber and a smaller yield, should convince us once and for all time that the man who selects culls and small seed potatoes is practicing false economy. No wonder some complain that their seed is running out. If we selected the inferior seed and inferior animals for propagating purposes, it is folly to expect good results.

A PRODUCTIVE TREE

In the orchard of Mr. John Tobin of this town is a Spy apple tree which established what we think is a record for productiveness. In the different years Mr. Tobin has obtained the following number of barrels of fruit, 1910, 15 bbls; 1911-15½; 1912, 18; 1913—4; 1914—20; 1915—5; and in 1916—21 barrels. At the prices ruling this year Mr. Tobin will find this tree a very present help in times like these in helping to keep the coal bin and the flour barrel and sugar bag filled.—The Advertiser, Kentville, N. S.

THE CANKER WORM

We again beg leave to call the attention of apple growers through out the Valley to the very serious outbreak of Canker Worm recently at its height, and to remind them that the best method of combatting Canker Worm is to band the trees with tree tanglefoot between the 20th and 25th of October, so as to prevent the ascent of the wingless females or slugs.

A summary of the Canker Worm life-history is as follows;

The winter is passed in the egg state, the eggs being deposited in very irregular patches or clusters on the limbs of the tree. About four or five days before the apple blossoms to poison as they grow. In the caterpillars emerge and feed on the leaves, often defoliating entire orchards and getting more difficult to poison as they grow. In the caterpillar stage they are popularly known as measure worms or inch worms, and may be solid green or striped with black, depending on their maturity. About the end of June they drop to the ground and burrow down about one inch and there pupate. About the first of November the adults appear; the males, small winged moths, which may be seen flying about the trunks of the apple trees, the females, small wingless slugs, which crawl up the trunks of the apple trees to deposit their eggs on the branches.

The best method of combatting the Canker Worm is to place a band of tree tanglefoot from two to three

Win This

Overland 75 Touring Car

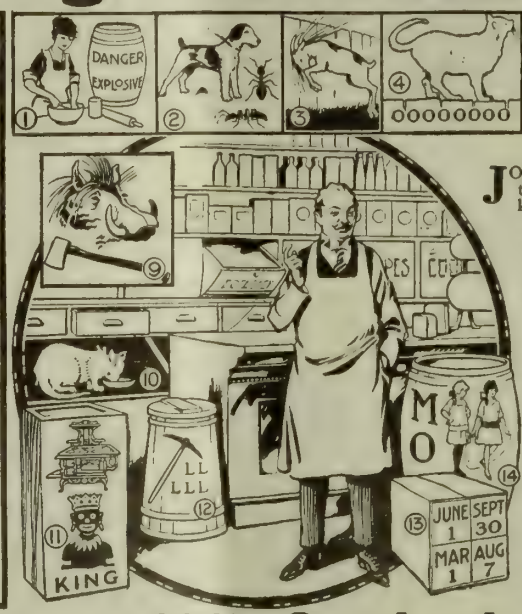
$1000.00 in other Fine Prizes

First Prize 1917 5-Passenger Overland Touring Car, Completely Equipped.

What groceries did Brown advertise?

List of Groceries kept in John Brown's Store

Apples
Catsup
Biscuits
Pickles
Tea
Tomatoes
Allspice
Baking Powder
Coffee
Farina
Rolled Oats
Stove Blacking
Dates
Cabbage
Flour
Matches
Soap
Molasses
Butter
Mustard
Borax
Oranges
Sugar
Vinegar



HERE'S A REAL PUZZLER FOR WISE HEADS

JOHN BROWN is noted for being the livest merchant in town because of the novel way in which he advertises and creates interest in his well known grocery store. Recently Mr. Brown presented a clever problem to his customers. It is one that will give much amusement and entertainment to every puzzle lover. Look at this picture of Mr. Brown's Store, and you will see his idea. He carefully covered the labels of the boxes, barrels, and bins containing fourteen of the staple lines of his stock. Then he engaged a clever cartoonist and had him draw a series of puzzle pictures to be used as labels to represent the names of the hidden goods. The Artist caught the spirit of the idea, and at once drew picture No. 2 to represent currants (currants). Then he drew picture No. 4 as a label for tomatoes (Tom-eight-O's). With these two names to start you and the grocery list at the left of the picture by way of suggestion can you find what the other twelve represent?

2nd Prize—Famous Indian Motorcycle. Value $300.00

1917 Overland Touring Car

FIRST PRIZE FOR THE BEST REPLY

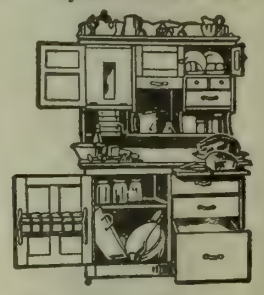
$1,000.00 IN OTHER GRAND PRIZES TO BE AWARDED

They include—

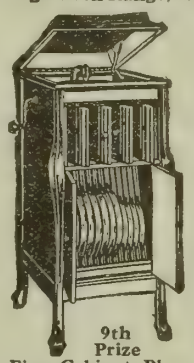
$300.00 Indian Motorcycle	$60.00 High Oven Range
Cabinet Phonograph and Records	Waltham Watches
$45.00 1917 Cleveland Bicycle	$50.00 Hoosier Kitchen Cabinet
$48.00 Singer Sewing Machine	Perfection Oil Range
Cabinet of Rogers Silverware	1900 Washing Machine
Handsome Mahogany Dressing Table	Wrist Watch
and a host of other Grand Prizes too numerous to mention here.	Beautiful Sets of Books

BIG COMPLETE PRIZE LIST SENT TO YOU DIRECT

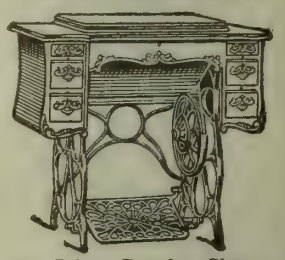
3rd Prize—Clare Bros. Famous High Oven Range, Value $60.00



6th Prize—Famous "Hoosier Beauty" Kitchen Cabinet



9th Prize Fine Cabinet Phonograph Complete With 6 Records



4th Prize—Genuine Singer Drop Head Sewing Machine

THIS CONTEST IS ABSOLUTELY FREE OF EXPENSE TO ALL
You are not asked to spend a cent of money or buy anything

A FEW HINTS—To aid you a little a suggested list of groceries kept in Brown's Store is alongside the picture. A good plan is to study the list and write down the name which in your opinion best fits each picture. All the names represent articles in everyday use and which are to be found in any grocery store. No trademark names or special manufacturers' names are used, so with these few hints and a little thinking you should be able to solve all the pictures. Note that 10 points toward the prizes are given for each correct answer and that if your answers gain only 200 points you win first prize. (See Rules).

THE OBJECT OF THE CONTEST—Frankly this great event is intended to advertise and introduce EVERYWOMAN'S WORLD, Canada's Greatest Magazine, to hundreds of new homes, which should know that a magazine of such excellence and real worth is being published right here in Canada by Canadians for Canadians. You can easily help us to do this when you enter the contest, but you do not have to be a subscriber nor are you asked or expected to take the magazine or spend a single penny in order to compete and win the touring car or one of the other magnificent prizes.

EVERYWOMAN'S WORLD is now the established favorite in more than 130,000 of Canada's best homes. Though that is the greatest circulation ever attained by any Canadian magazine, it doesn't satisfy us. Our motto is "Everywoman's World in Every Woman's Home." Hundreds of Canadian homes which may not know it now, will welcome this handsome, interesting, up-to-the-minute magazine, and once it is introduced, they will want it every month.

Therefore, when your answers are received, we will write and tell you the number of points you have gained toward the prizes, and send you Free a copy of the latest issue of this greatest of Canada's magazines. Then, in order to qualify your entry, we will ask you to do us the small favor of introducing it to just five friends or neighbors. We will even send you sample copies to leave with each of your friends, if you wish. State your willingness to accord this favor when you submit your answers. The company agrees to pay you in cash, or reward you with a handsome gift for your trouble, entirely in addition to any prize your entry may win in the contest.

Follow These Simple Rules When Sending Your Entry

1. Write your answers in pen and ink, using one side of the paper only. Put your name and address on the upper right hand corner. Anything other than your name and address and your answers to the picture must be on a separate sheet. Do not send fancy, drawn nor typewritten entries.
2. Boys and Girls under 14 years of age are not allowed to compete, nor are the members and employees of the Continental Publishing Co., Limited, EVERYWOMAN'S WORLD, nor any of their relatives or friends.
3. Contestants will be permitted to submit as many as three sets of answers to the puzzle, but only one set can be awarded a prize.
4. If different members of a family compete, only one prize will be awarded in one family or household.
5. The final awards will be made by a Judging Committee of three Toronto gentlemen who have no connection with this firm, and contestants must agree to abide by the decisions of the Judges. The names of the Judges and the manner of the judging will be made known to all contestants. The prizes will be awarded according to the number of points gained by each entry. 200 Points, which is the maximum, will take first prize. 10 Points will be awarded for each correct answer, 20 for the general neatness and appearance of the entry, 10 for handwriting, and 50 for fulfilling the conditions of the contest. The contest will close April 30th, 1917, immediately after which the judges will award the prizes. Entries should be forwarded promptly. Each competitor will be required to show the sample copy of EVERYWOMAN'S WORLD, which we shall send, to four or five friends or neighbours who will want to subscribe. For this service, the Company guarantees to reward you with cash payment or a valuable prize. Such rewards to be entirely in addition to any prize your answers may win in the contest.
6. Contestants are not required to be subscribers or readers of EVERYWOMAN'S WORLD nor are they asked to subscribe or to buy anything. In awarding the prizes, the Judges will have no knowledge of whether the entry comes from a subscriber or not.
7. Address, Contest Editor, Everywoman's World, Continental Publishing Co., Limited 1113 Continental Bldg., Toronto, Ont.

inches wide around the trunk of the tree and so prevent the females from depositing their eggs.

Home-made tangle foot may be made by boiling 9 lbs. of resin, 7 pints castor oil and ¼ lb. of parrafin or beeswax together. If found to be too hard, add more oil, if too soft add more resin, tempering to suit temperature.

Commercial tree tanglefoot may be obtained from any of the agencies of the United Fruit Company in the province and is probably better and as cheap as the homemade article.

When the orchard is infested with Canker Worm and banding is not practiced, a very thorough application of poisoned spray immediately before the blossoms next spring, when the young caterpillars are very small and so most easily poisoned, is all that can be done to prevent defoliation in an orchard.—G. E. Sanders. Field Officer Dominion Entomological Laboratory, Annapolis Royal, N. S.

EMBARKING IN BEEKEEPING INDUSTRY

Editor Maritime Farmer,

Letters are coming to me almost daily from persons wishing to make a start in beekeeping, who desire certain information. The questions are practically the same in each case. It has occured to me that by publishing the questions from one such letter and my answers to them, many others might reap the benefit.

The letter runs about as follows;

"I have just come here and bought a small farm and intend keeping bees. May I ask you to give me some information about them. What are the best kinds for this province? When is the best time to begin beekeeping? What about keeping them through the winter? Have you any bees to sell?

The answer:—Answering your questions in the order they were asked we would say that there are but two kinds of bees that find a place in this province, viz. Black bees and Italians, of which the former are very much in the majority. We have no data, or experimental evidence, as yet to show which is the better breed, or the one best adapted to conditions as they are found in this province. For our own part we very much prefer the Italians, and we know that where beekeeping is carried on in a large way, only Italian bees, except in limited cases, get any recognition.

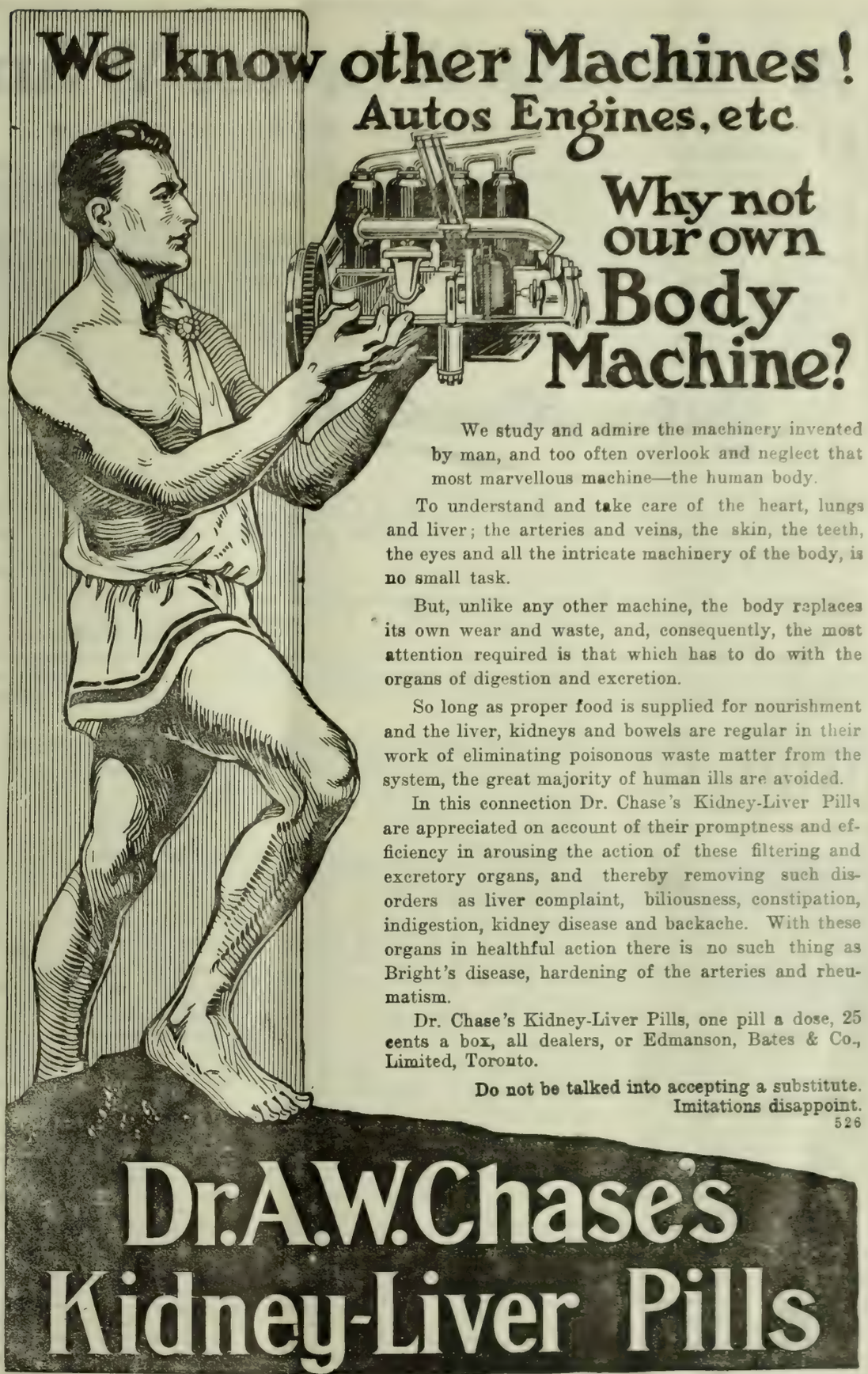
We are inclined to believe that for the beginner the best time to start beekeeping is in the spring. However, this depends somewhat on circumstances, bees are always much cheaper in the fall of the year. If you have a suitable place to winter them, it would therefore, be just as well to buy in the fall.

In this province, bees are wintered most commonly in the dwelling-house cellar. Any cellar that will keep vegetables will do for a few colonies of bees. The cellar should however, not be damp or mouldy. If the colony is made up of young bees and there is a plentiful supply of good stores, the chances of their coming thru the winter, under most any ordinary cellar conditions, are pretty good.

We have no bees for sale but readily can, and would be very glad to put you in touch with those who have. Bees may be bought in boxes, for from $2 to $4 per colony. In movable frame hives (and be sure the frames are movable) for $4.50 to $6.

In view of the fact that foulbrood, a highly contagious bee disease, is known to be prevalent in some parts of the province, we would strongly recommend that you first get in touch with us before having bees sent to you from any part of the province. Bees are so plentiful in the province that there is certainly no reason for taking a chance of bringing more disease in, by going outside the province to buy bees. If you cannot buy from your neighbor, the kind of bees you wish to keep, then take any kind you can get and later, change them to the kind you want by introducing queens of that breed. There is little danger of bringing in contagious diseases with queens if a few simple precautions are taken.

Very truly yours,
H. B. DUROST.


We know other Machines!
Autos Engines, etc
Why not our own Body Machine?
We study and admire the machinery invented by man, and too often overlook and neglect that most marvellous machine—the human body.
To understand and take care of the heart, lungs and liver; the arteries and veins, the skin, the teeth, the eyes and all the intricate machinery of the body, is no small task.
But, unlike any other machine, the body replaces its own wear and waste, and, consequently, the most attention required is that which has to do with the organs of digestion and excretion.
So long as proper food is supplied for nourishment and the liver, kidneys and bowels are regular in their work of eliminating poisonous waste matter from the system, the great majority of human ills are avoided.
In this connection Dr. Chase's Kidney-Liver Pills are appreciated on account of their promptness and efficiency in arousing the action of these filtering and excretory organs, and thereby removing such disorders as liver complaint, biliousness, constipation, indigestion, kidney disease and backache. With these organs in healthful action there is no such thing as Bright's disease, hardening of the arteries and rheumatism.
Dr. Chase's Kidney-Liver Pills, one pill a dose, 25 cents a box, all dealers, or Edmanson, Bates & Co., Limited, Toronto.
Do not be talked into accepting a substitute. Imitations disappoint.
526
Dr. A. W. Chase's Kidney-Liver Pills

RED ROSE TEA "is good tea"

A Tireless Worker Wants a Job

HE will get up at 5 a. m. and work through till bed time without complaint.

Give him a sawing outfit and he will cut wood all day long. He just feels fine when he's driving the thresher, the grain elevator, straw cutter, fanning mill or hay press.

He seems to really smile when turning the sausage grinder, green bone cutter or grindstone. And then when his boss's wife wants the separator, churn or washing machine run he is happy to oblige her.

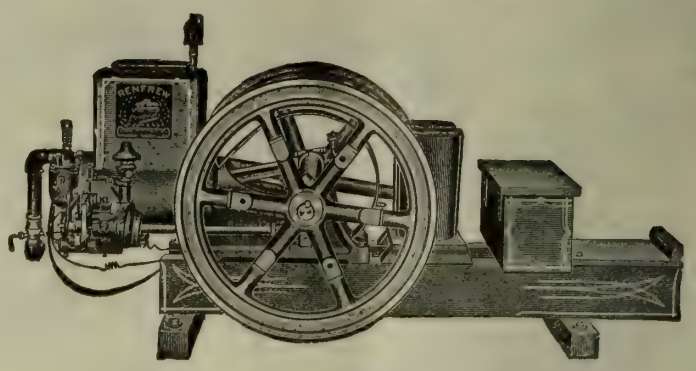
He doesn't eat much. Just feed him a little gasoline, and some oil to keep his working parts limbered up, and he's your faithful servant. His name is

Renfrew Standard

and some have nicknamed him the "Big Boy"—because the Renfrew Standard is built extra large and strong. The 6 h. p. Renfrew Standard, for example, being almost as large as the average 8 h. p. engine.

The "Big Boy" sure is a whale for work and a friend worth his weight in gold to the farmer whose son has gone to the war or who cannot get enough hired help—and that's most every farmer.

The "Big Boy" is right up to date, too. He has two complete and independent ignition systems—batteries and high tension magneto. He is thus doubly reliable.



He has an economical carburetor that saves gasoline. He has a fly ball governor just like his brother the steam engine. He starts without cranking—and stays at his job until you tell him to stop.

He can lift an awful burden of work off your shoulders. He can save you precious hours of time. He can come right up to you from Renfrew by first train after he knows you will give him a job.

If you would like to read his pedigree and know what sort of stuff he's made of before you take him on drop a card to

The Renfrew Machinery Co., Ltd.,

Head Office and Works, RENFREW, ONTARIO

Branch Office, SUSSEX, N. B.

AGENCIES ALMOST EVERYWHERE IN CANADA.

DAIRYING.

IMPROVING FARM BUTTER

The adoption of more careful methods of handling milk and cream and improved practices in the making of farm butter will reduce rather than increase the trouble incident to home production of this food, say dairy specialists, and will result in a superior product which can be sold more easily and for a better price than the average farm butter. Last year about thirty million pounds of butter, much of which originated on the farm, was washed or renovated because it was of such poor quality that it could not be profitably offered on the regular butter markets.

Churn Cream Only.

Cream alone should be churned. It may be skimmed as soon as it rises or may be separated by a mechanical separator. The latter plan is the more efficient, and though requiring a considerable initial outlay often will be profitable. The cream should be set aside in a clean place by separate milkings. A temperature of 50 degrees F. or lower should be maintained until from 12 to 18 hours before churning time, when the various batches should be stirred together well and brought to a temperature of about 70 degrees F. by placing the container in a bucket of warm water. One of the first acts of the farm housewife who decides to adopt improved methods should be to purchase a dairy thermometer. Temperatures play an important part in the development of flavors in butter, and always should be determined with fair accuracy. After the cream is mixed it should be kept at approximately 70 degrees F. until just before churning time, when it should be reduced to about 58 degrees F. where this is possible (or to such temperature not above 65 degrees F. as to complete the operation of churning within 25 or 30 minutes).

Churning

The barrel type has been found by dairy specialists to be one of the most satisfactory churns. The dasher or plunger type requires a somewhat greater expenditure of labor. Earthenware churns are especially undesirable unless perfectly glazed, since if pores are exposed they absorb milk and cream which later decay. Churns with mechanical devices inside them are difficult to clean and sometimes injure the body of the butter.

The churn should be scalded preparatory to churning, but should be cooled with water before the cream is placed inside. The cream should be poured in through a coarse strainer. Every few minutes during the early part of the churning gas should be allowed to escape from the churn. If the temperature is right the churning should require about 25 or 30 minutes. The process is completed when the granules of butter are about the size of large wheat kernels. The buttermilk should then be drained off and the butter granules repeatedly washed with cold water while still in the churn. The washings should be continued until all milk is removed. Under no circumstances should working be depended on to remove surplus milk.

Working and Packing.

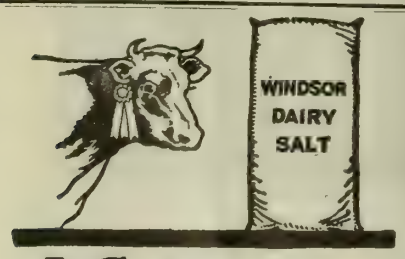
When the butter is free from all milk it should be taken from the churn with a paddle and placed on a worker. The hands should never touch the butter, both on account of sanitary reasons and because the body warmth may melt the fat. The working should be done carefully to avoid making the butter greasy. Before the butter is worked, fine salt should be added at the rate of about an ounce per pound of fat.

The butter should be prepared for market in a rectangular mold since when in this shape the product is more easily wrapped and handled and is more pleasing to customers. Regular parchment butter-wrapping paper should be used around the prints, as ordinary waxed paper tears easily and sticks to the butter. The placing of the wrapped prints in paste board boxes is a desirable final step, as it protects the package, gives it a better appearance, and permits the use of the maker's name or trade-mark as an advertisement.

After the butter making operations are completed the churn should be rinsed carefully with warm water. It should be scrubbed with hot water, cleansing powder and a fiber brush, and finally should be scalded and set in a clean, sunny place to drain and dry.

DENMARK'S RECORD IN DAIRYING WORK

Denmark claims to hold the world's record of intensive farming. After Germany had taken Schleswig-Holstein, Danish experts figured that their development must come from within, and they proceeded to develop the arid wastes of Jutland, which have now become tremendous producers of agricultural and dairy products. The Danes claim that they have solved most of Europe's intensive farming problems, and that much of German efficiency in this direction has been learned from them. The little kingdom is one of the greatest dairy producers of the world and its butter is exported to every part of the earth. It is found in Mexico, and even in the far-off islands of the Antipodes as well as in Patagonia. Its reputation in Europe, particularly in England, is unexcelled, while vast quantities have been shipped for years to all the countries of Europe. American business men have always admired the wonderful cow-feeding methods employed by the Danish farmers, who tether their cattle in rows in such a way that they can eat but a certain section of grass in a day. The next day they are moved forward in the meadows and it is worked out on such a minute basis that by the time the cows have reached the end of the



A Sure Prize Winner

Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED 178

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by **Minard's Liniment** —Rev. Wm. Brown.

I was cured of a bad case of earache by **Minard's Liniment** —Mr. S. Kaulbach.

I was cured of sensitive lungs by **Minard's Liniment** —Mrs. S. Masters

Manufactured by the **Minard's Liniment** Yarmouth, N.S.

Lemon Tart

A delicious dessert made from a recipe in the Lantic Sugar Cook Book which tells how to make many new sweets and desserts.

Lantic Sugar

"The All-Purpose Sugar"

is best not only for the table but for cooking. The extra "FINE" granulation dissolves instantly, saving labor and giving high sweetening power.

Packed in 100-lb Bags

For cook book send a red ball trade-mark cut from the package.

Atlantic Sugar Refineries, Ltd.
Power Building, MONTREAL 12

pasture the grass is again ready for grazing at the beginning.—The (London) Dairy.

ONE COW EQUALS ELEVEN STEERS

One good Holstein cow made more money for a certain Northwestern Iowa farmer than eleven fat steers during the past year. By producing twin calves her profit amounted to $141.20, while that of the steers only totaled $138.27. As all dairy cows do not give birth to twin calves every year, deducting $50, the price of the extra calf and her profit would still be $91.20 or more than equal to the profit of seven steers. The results were procured under ordinary Iowa farm conditions and serve as a good contrast as the profits to be obtained from the beef and dairy business.

Thirty-three head of feeders were bought on the Sioux City market March 10, 1914. They cost $6.50 per 100 lbs. and weighed 846 lbs. per head, totalling a sum of $1814.67. Freight to the farm plus dehorning made an additional expense of $21.60. They were fed 15 tons of alfalfa hay before going on grass which at $10 a ton amounted to $150. Pasture cost $5 a load or $165 for the bunch. When on feed they consumed 16 tons more of hay, worth $160, and 800 bushels of snapped and shelled corn at 60 cents amounting to $480. The salt consumed during this time cost $10.

The cattle were shipped and sold on the Sioux City market, November 10, 1914. The cost of marketing was $63.05 for freight, yardage, hay, commission, and insurance. With the interest on the money invested, which was $72.64, the total amount of expense was $2936.96. On the market they weighed 1228.78 lbs. each and brought $7.75 per hundred pounds. A gain of 3000 lbs. of beef at $7.00 per hundred lbs. added $210 to thi . This sum of $3352.62 minus the expense $2936.96 left a profit of $415.66 on the bunch, or $12.57 on each steer.

The charges against the cow for feed were estimated; the feed was not weighed each time so exact amounts cannot be given. She consumed approximately three tons of alfalfa and twenty bushels of corn, which at the price paid for the steers was equal to $42. Pasture cost $5, salt and other incidentals $3, or in all a total of $50 expense. She produced two calves which were sold for $50 each when weaned from skimmilk. Her milk record was 8000 lbs. which tested 3.8% butterfat and this at 30c per pound amounted to $91.20. This made her entire production equal to $191.20, which minus the cost, leaves $141.20 as profit. The hay fed in both cases was very poor stuff and would not have brought $10 per ton on the market.

As a result from these figures and from similar figures of past operations, this particular farm is running more and more to dairy business each year. Occasionally bunches of cattle are fed, but only when an extra supply of roughage is on hand.—H. J. Shoemaker, in Hoard's Dairyman.

PUT THE RECORD IN THE SHOW RING

The Prairie Farmer thinks that some plan should be adopted for judging dairy cattle in the show ring whereby the record of actual milk and butterfat performance say, for one year, should be included in the scale of judgment. Slowly the dissatisfaction of dairy farmers with this superficial show ring judgment is forcing the trend of things in that direction. Of course such inclusion would apply only to the aged cow class. But shouldn't the record be made a part of the judgment? The prime object of a cow's existence, especially for breeding purposes, is what she can do at the pail. No matter how highly bred or perfect she is in form if she is good for nothing as a performer, who wants her? We agree with the Prairie Farmer.

Skim-milk is one of the most valuable feeds that is available upon the farm and for that reason it is better to keep the milk and sell the butterfat, than to sell the whole-milk.

Oftentimes the degree of excellence which a cow may possess depends upon the man who takes care of her.

FOR HEADACHES, BILIOUSNESS CONSTIPATION,

INDIGESTION

Nearly all our minor ailments, and many of the serious ones, too, are traceable to some disorder of the stomach, liver, and bowels. If you wish to avoid the miseries of indigestion, acidity, heartburn, flatulence, headaches, constipation, and a host of other distressing ailments, you must see to it that your stomach, liver and bowels are equal to the work they have to do. It is a simple matter to take 30 drops of Mother Seigel's Syrup daily, after meals, yet thousands of former sufferers have banished indigestion, biliousness, constipation, and all their distressing consequences in just this simple way. Profit by their experience. As a digestive tonic and stomachic remedy, Mother Seigel's Syrup is unsurpassed.

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MOTHER SEIGEL'S SYRUP.

THE NEW 1.00 SIZE CONTAINS 3 TIMES AS MUCH AS THE TRIAL SIZE SOLD AT 50c PER BOTTLE.

ESTABLISHED 1810.

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If you wish to sena gifts of Silverware, Jewellery or Precious Stones to anyone in the Old Country or elsewhere abroad, take advantage of the Mappin & Webb service.

Everything listed in our Canadian Catalogue has its counterpart in our London establishments in Regent, Oxford and Queen Victoria streets. Give us an idea of the kind of present you wish to make. We will send you Catalogues showing what we have in this particular line. Anything you select, will be delivered anywhere in England or France, carriage paid and full allowance made from our Catalogue prices for Canadian duty which will not have to be paid on any English made article.

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Will you send us your address ?

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353 ST. CATHERINE ST. WEST, • MONTREAL. 15

Instant Relief for

Biliousness

and other Liver Troubles

The astonishing efficacy of Dr. Cassell's Instant Relief is due to its toning effect upon the liver and bowels. It gives strength to the organs and helps them back to health and natural action. In other words it enables the system to cure itself. Don't weaken your liver with purgative pills or morning salts, don't get the salts-taking habit; let Dr. Cassell's Instant Relief bring you natural and therefore lasting cure.

Dr. CHAS. F. FORSHAW, D.Sc., F.R.M.S., a well-known British Scientist, writes:—"Never take Salines or Purgatives for Constipation—to force Bowel action is to aggravate the trouble and create the Constipation habit. I recommend as a superior and convenient treatment Dr. Cassell's Instant Relief."

Price 50 cents. from all Druggists and Storekeepers,

or direct from the Sole Agents for Canada, Harold F. Ritchie and Co., Ltd., 10, M'Caul-street, Toronto. War tax 2 cents extra.

Dr. Cassell's Instant Relief is the companion preparation to Dr. Cassell's Tablets.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, England.

Dr. Cassell's

Instant Relief

LIVER TONICS
ANTACIDS
CARMINATIVES
LAXATIVES

LIVE STOCK.

FINISHING LAMBS FOR THE BLOCK

On the Dominion Experimental Farms some interesting results have been obtained from a number of experiments in lamb feeding conducted during the last few years.

The large percentage of Canadian lambs are marketed in the fall direct from the pastures. All the lambs from the farmer's flock are usually lifted at the same time, which means that the well finished lambs of good weight must help to sell the light, thin lambs, which may be as well bred but, being late lambs or twin lambs, have not done as well as their flock mates. Well finished lambs of uniform weight invariably command a higher price than mixed lambs varying in size, weight and finish, hence it is always more profitable to hold the lighter lambs and sell only those of uniform weight and finish. Again, the selling of the most of our Canadian lambs during the fall months practically always causes a slump in price. Lambs not required for immediate consumption are held in cold storage to the profit of the wholesaler in view of the usual increase in price of from $1 to $3 per hundred pounds between the months of November and April.

When the farmer appreciates these two conditions the lamb trade will be revolutionized and the farmer will finish his work and reap full profits for food-stuffs consumed by and labour expended on his sheep. Many farmers with abundance of roughage can well afford to finish from one to three carloads of lambs during the winter months, thereby making top market prices on the farm produce and a good margin of profit in addition. Realizing the existence of such conditions all over the Dominion, a large amount of investigational work along these lines has been conducted on the Dominion Experimental Farms throughout Canada. Details of this work may be seen in the annual reports; however, a brief summary of the work to date may be timely.

AVERAGE PROFITS IN WINTER LAMB FEEDING.

Experimental Farm at	No. of years	Weight of lambs when pu in feed lots	Buying price per cwt	Selling price per cwt	Spread between buying and selling prices	Profit over feed per lamb
Ottawa, Ont.....	5	99	6.65	8.25	1.60	1.38
Charlottetown, P. E. I.....	4	63	6.65	8.25	1.60	.70
Nappan, N. S.....	3	84	5.80	7.83	2.03	.90
*Lennoxville, Que.....	1	90	6.00	9.00	3.00	1.65
Indian Head, Sask.....	1	70	6.00	6.00	....	.34
Lethbridge, Alta.....	5	69	5.66	7.67	2.01	1.35
Average	3	79	5.79	7.50	1.71	1.05

*Most of the lambs at this Station finished on pasture.

Profits in Winter Feeding Lambs.

In the six years' work conducted on the Experimental Farms system, the profits on the winter finishing of lambs have ranged from 25 cents per head to $2.10 per head over the cost of feed. In other words, the Experimental Farms and Stations have purchased unfinished lambs on the open market or from drovers, and, after charging good prices for marketable farm feeds and cost prices for other roughages, have made from 3 to 33 per cent on the investment in the lambs, labour not included. Even allowing a fair margin for labour, this is as profitable a line of feeding work as can be carried on and shows a return on investment greater than is usual in the finishing of steers or shoats.

The class of lamb to buy depends largely on the lambs available and market requirements. Usually, the well-bred lamb showing plenty of constitution and thrift and weighing from 60 to 80 pounds is the best stocker lamb to put into winter quarters. Lambs weighing from 80 to 100 pounds, if thin, may be profitably put in the feed lot for a short finish and if good fall pastures are available this may be as profitable a line of work as any. The finished, heavy

FREE TO BOYS

Guaranteed Watch AND Machine Gun

This Machine Gun stands 9 inches high and is 23 inches long. It shoots 36 wooden bullets by just turning the handle.

The "Railroad King" watch is a guaranteed timekeeper; stem-wind and stem set.

If you will sell 30 packages of our lovely embossed Xmas Postcards at 10 cents a package we will send you, with all charges prepaid, a guaranteed "Railroad King" Watch and we will also send you, without charge, a "Big Dick" Machine Gun together with a supply of wooden bullets if you will show you watch to your friends and get just five of them to sell our pictures and earn prizes also.

Send us your name and address and we will send you the pictures to sell. You pay for them when they are sold.

HOMER-WARREN CO.,
Dept. 92 Toronto.

BARN FIRES IN THE PROVINCE SERIOUS

From Toronto World October 5 Page 6

Damage in Last Two Months Totals Three Hundred Thousand Dollars.

TO CALL CONFERENCE

Will Discuss Cause and Prevention—Legislation is Suggested.

Barn fires to the number of 121 have been reported to Fire Marshal Heaton for the months of August and September of this year. The cost to the province is about $300,000, of which 60 per cent. has been assumed by fire insurance companies and the remainder, $120,000, on which there was no insurance, has been a dead loss to the farmers.

"I know that I am erring on the conservative side," said Mr. Heaton when he made the above statements yesterday. Returns for September are not complete. There is no evidence of the incendiarism suspected at one time when German interference was hinted.

Mr. Heaton plans to call a conference soon of those most nearly [illegible] to go into the cause

Practically all of which could have been prevented through the use of Pedlar's Metal Coverings

KNOWING how much depends on the safety of *your* crops, *your* cattle, *your* implements this year and for years to come, why continue to imperil each season's hard earnings by putting up with a barn whose roof and walls are a constant invitation to fire and lightning and flying sparks? Don't wait until legislation forces you to erect safer buildings. Re-cover your barn *now* with Pedlar's "George" Shingles and Pedlar's Corrugated Iron Siding. A slight expenditure now for protection would look small against the loss of your barn and its contents. And Pedlar's Shingles and Siding insure you absolute protection against fire, lightning and weather for generations.

Mail the Coupon NOW for Free Estimate of Cost

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(Established 1861)
26 Nazareth St., Montreal, Que.
Executive Offices and Factories: Oshawa, Ont.
Branches Ottawa, Toronto London, Winnipeg

THE PEDLAR PEOPLE, Limited, OSHAWA

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Dear Sirs:—
Send me Free Estimate of cost of protecting my barn with Pedlar's "George" Shingles and Pedlar's Corrugated Iron Siding.
Size of barn .....ft. x.....ft.
Name.....
Address.....

lamb weighing from 80 to 110 pounds should never be purchased for feeding purposes. The time when greatest profits can be made in purchasing lambs is usually between the months of August and November. However, the condition of the pastures and of the lambs themselves as well as the markets, will regulate the time for purchase. The proper time to sell the lambs is when they are finished, whether this be November or April or any intervening month. This applies also to the selling of lambs off grass. Finished lambs will make small gains at a very high cost per pound, which cost will usually be far in excess of the market price at that season. In addition to this, the markets are demanding a well-finished lamb, not overdone, and ranging from 85 to 105 pounds live weight, depending upon the breed and season of the year. This, of course, does not apply to the young lamb trade of the spring and early summer. The accompanying table shows the average profits over the cost of feed in the feeding of lambs on the Experimental Farms throughout Canada during the past six years:—

This table shows an average profit over feed—on Experimental Farms and Stations throughout Canada, in the feeding of many carloads of lambs —of $1.05 per lamb when the spread between buying and selling prices is approximately $1.70. Since the spread between buying and selling prices has exceeded this amount during the past two years and promises a still further rise during the next two years, one is safe in anticipating a reasonable profit in lamb finishing, in spite of the very high price of lamb at the present time. If this applies to the purchasing of stocker lambs for winter feeding, it would apply doubly to the farmer or shepherd having lambs in an unfinished condition. It is always profitable to finish lambs before putting them on the market.

Feeds for Winter Lamb Finishing.

A large number of feeds have been tried in this work and these may be briefly treated under the four headings; dry roughages, succulent roughages, grains, and mill feeds.

Of the dry roughages, alfalfa hay is an easy leader, closely followed, however, by fine clover hays and fine mixed hays. At the Experimental Station, Lethbridge, Alta., it has been found that alfalfa hay, when properly fed with succulent roughages and grain, is worth $21 per ton for the finishing of lambs. It has also been found that alfalfa hay alone or with meal is less profitable than when succulent roughages, such as roots (turnips and mangels) or green oat sheaves, are also fed. What applies to the rich alfalfa hay also holds true with clover hays. Good quality clover hay is worth from 10 to 50 per cent more in lamb feeding than timothy or similar grass hays. Proving the value of succulent roughages, it was found also that good quality timothy hay plus mangels gave from 15 to 20 per cent more profitable gains than clover hay alone. A hay made from peas and oats, well cured, will produce satisfactory gains, but at least 10 per cent less profitable than alfalfa or clover or a mixture of these with oat sheaves.

Fine corn stover will also make profitable gains, but there is a large percentage of waste. However, a small amount may be fed satisfactorily as a supplement to good quality leguminous or grass hay. Coarse hays commonly found in marsh lands are approximately 50 per cent less valuable in lamb finishing than good quality timothy hay and approximately 60 to 75 per cent less efficient than clover or alfalfa hay. A limited amount of straw may be fed satisfactorily in finishing lambs, but this

(Continued on page 102)

Real Home Made Pie—

Yes, Ma'am!
Real homemade Pie!

With top and under crust that truly melt in your mouth—and a generous filling of your own delicious homemade preserves or home-grown fruit.

That's a pie worth eating, and worthy of your baking, and it's the kind of pie you can make every time with

BEAVER FLOUR

MILLED OF BLENDED WHEAT

"Beaver" Flour equals any of the "special pastry flours" because it is, in itself, a special pastry flour—being the choicest Ontario fall wheat, blended with western spring wheat to give it strength.

This is why Pies, Cakes, Cookies, Tarts, Doughnuts, Buns and Fancy Pastry —when made with "Beaver" Flour—are so light, so flaky, so uniformly good.

This is also why the Bread and Rolls—made with "Beaver" Flour—have a delicate, nutlike flavour that is totally lacking in western spring wheat flours.

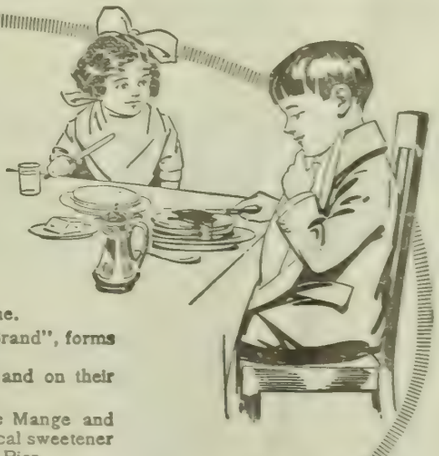
Just try "Beaver" Flour for anything you are baking—and see what happy results you get, every time.

DEALERS—write for prices on Feed, Coarse Grain and Cereals. 200

THE T. H. TAYLOR CO. LIMITED, . . CHATHAM, Ont.

Give the "Kiddies" All They Want of

CROWN BRAND CORN PURE SYRUP



It is one of the delicious "good things" that has a real food value.

A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

THE CANADA STARCH CO. LIMITED
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.
Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

Take Good Care Of The Colts

It's cheaper to *raise colts* than to *buy horses*. But it's *costly* if you *lose* the colts. Keep a bottle of Kendall's Spavin Cure handy. For thirty-five years has proved it the safe, reliable remedy for spavin, splint, curb, ringbone, bony growths and lameness from many causes.

Kendall's Spavin Cure

is sold by druggists everywhere at $1 a bottle, 6 bottles for $5. Get a free copy of our book "A Treatise on the Horse" at your druggist's or write us. 116

Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

THE HORSE

OILING THE HARNESS

The most important point in caring for harness is to keep the leather soft and pliable; this can be done only by keeping it well charged with oil and grease. All work harness should be thoroughly cleaned, washed and oiled twice a year. To do this, the harness should be taken apart and then all the plain leather straps should be thoroughly washed in warm water to which a little soda has been added. Scrub it well with a brush or a cloth to remove all dust, dirt and grease.

The leather should not be allowed to remain in the water any longer than is necessary or the stitching may be injured. Wash one strap and hang it up to dry and then take another. In this way, by the time the last straps are washed the first are ready to be oiled. Work each piece well with the hands until it becomes pliable. Patent and enamelled leather should not be put into the water at all, but it should be rubbed with a cloth moistened in warm water. After washing, the leather ought to be oiled while still soft and pliable, and before the drying is complete, so that the oil will strike in well. Lay out each strap on a board, and oil well with pure neat's-foot or cod liver oil.

The first is an excellent oil for harness, but cod liver oil has the advantage of keeping away rats and mice; they will never bother harness that has had a dressing of this oil. Take one strap at a time and give it a thorough treatment. A paint brush may be used to apply the first dressing of oil. Let the straps lie over night in a warm room and then go over them again. Work each strap through the hands this time in order to make it pliable. Now hang the harness up and allow it to drain and dry thoroughly before putting it together, also wipe all parts off with a cloth in order to remove the surplus oil which otherwise would catch dust and dirt.

If the harness needs blacking, now is the time to attend to this work while it is apart. Use vinegar black on the red spots and apply any standard make of harness black to the other parts. Or you can obtain the materials and make your own harness blacking, as follows: First dissolve together over a slow fire three ounces of turpentine and two ounces of white wax. Then add one ounce of ivory black and one dram of indigo, well pulverized, and stir until cold. Apply thin.

All broken and weak places in the harness should be mended at this time. Every farmer should have a simple repair outfit for harness, such as a leather punch, copper rivets and a sewing outfit. At any time when the harness begins ripping, take a few minutes and make the necessary repairs. This will often save a breakdown while at work, and it may eliminate the necessity of buying a new set of harness.

DRAFT HORSES PRODUCE BANK DRAFTS

This is the season of the year when the farmer with one or more brood mares must decide whether he will breed them to a pure-bred draft stallion of good type or to a grade horse. One requires a larger outlay for the service fee, but which one pays best? The question is well answered by the following story taken from Wisconsin Bankers' Bulletin No. 34:

A Wisconsin farmer one April day was leading his grade Belgian mare past a neighbor's place where a grade draft stallion was kept.

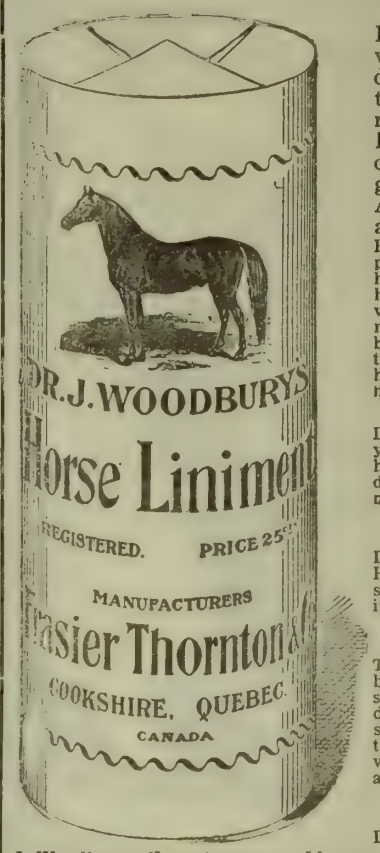
"Where are you going, Jim?" called the neighbor.

"I'm taking my mare to Mr. B's barn to breed her to his pure-bred Belgian," answered Jim.

"Huh;" said the neighbor, "why

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
Newton Lee, Owner "All Right" 5817.

Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada.

To Investors

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT, MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF $500 OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

Weight Versus GAS

TO offset the high price of gasoline, the best engineering talent in the world has perfected light-weight steels and scientific body construction

Despite its scarcity, aluminum is largely used. Weight reduction has been accomplished in every part of the car except the top.

All that is needed in a good top is found in

DU PONT FABRIKOID
RAYNTITE

Single Texture Topping

It is guaranteed one year against leakage. No top has a finer appearance, and although light in weight, it has the required strength and is made to last as long as the car.

Specify RAYNTITE Single Texture Topping for your 1917 car or re-top your auto with this guaranteed, light-weight, long service top material

Ask for free booklet "The Top Question" and samples of Rayntite Topping.

DU PONT FABRIKOID COMPANY TORONTO ONT.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Removes **Bursal Enlargements Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain;** Stops Spavin Lameness. Allays pain. Does not Blister, remove the hair or lay up the horse. $2.00 a bottle, delivered. **Book 1 K free.**

ABSORBINE, JR., the antiseptic liniment for mankind. For **Synovitis, Strains, Gouty** or **Rheumatic deposits, Swollen, Painful Varicose Veins.** Will tell you more if you write. $1 and $2 per bottle at dealers or delivered. **Manufactured only by W. F. YOUNG, P.D.F. 124 Lymans Bldg., Montreal, Can.**

Absorbine and Absorbine Jr. are Made in Canada

don't you save time and money by breeding to my stallion? The fee is cheap—only $12.00. You'll have to pay $15."

"No, sir," said Jim. "The day I go seven miles from home to breed to a pure-bred sire I earn the biggest wages of the year."

Then the neighbor turned away and muttered: "Well, you can do as you please, of course; but I'm going to breed to my own grade horse."

Jim's mare in due time produced a fine foal. Mr. B came to see it at weaning time and liked it so much that he asked the price.

"Well," said Jim, "I'm not anxious to sell, but I'd take $125."

"Done." cried Mr. B. "Here it is," he added, pulling out his check book and fountain pen and quickly filling in the amount. "Deliver the colt at my barn the next time you come to town."

After Mr. B left, Jim stood thinking for a while, then walked over to his neighbor's place and finding him at home, asked:

"By the way, John, did your mare have a foal to your horse last season?"

"Sure " answered John, "and a dandy, too," he added.

"Want to sell?" asked Jim.

"Yes, if I get my price, and that's $50," replied John.

Jim smiled at that and asked:

"D'you remember me passing your place one day in April a year ago and you wanting me to breed to your horse?"

"Yes," answered John; "and did your mare get a foal " he asked.

"She certainly did," replied Jim, "and here's a check B gave me for the critter today. Pretty good wages for a day's work, eh? I made $72 by not using your horse and you could have done as well."—Hoards.

COLD FALL RAINS HURT COLTS

The exposure of young horses to the short spells of severe weather which occur frequently during the fall, causes a shrinkage in live weight and is a hindrance to rapid and economical development. Older horses seem to stand this sort of treatment with less loss. It is doubtless true that animals become accustomed to winter weather, but frequent changes from fine fall weather to bad storms retard gains in colts without shelter.

Four yearling Percheron fillies with an average weight of 1169 pounds pounds of corn and oats (one-half of each by weight, daily shrank an average of 32 pounds each during the spell of severe weather on Oct. 18 to 20 of this year, at the University of Missouri. Aged mares in foal lost only slightly during the same period.

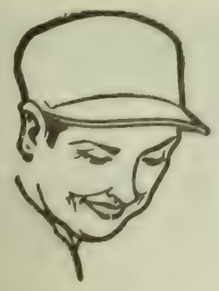
Inexpensive sheds, which will protect colts from wind, rain, sleet and snow, will prevent part of such loss in weight. Growing horses should not be housed too closely and prevented from taking plenty of exercise, but they should not be subjected to extremely bad weather if they are expected to make satisfactory growth.

IMPACTION COLIC

There are many different kinds of colic in the horse, and impaction colic is one of the most fatal. Impaction colic is caused by improperly masticated food, resulting from bad teeth. A horse is said to be as old as his eteth. Occasionally a 10-year-old horse is found with such bad teeth that he is already found to be a hard keeper.

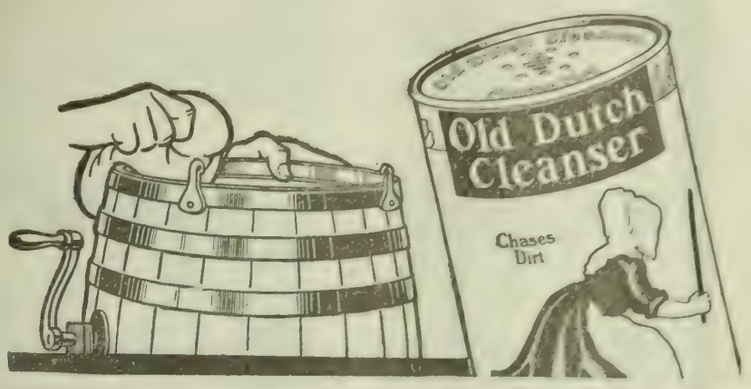
The period of usefulness of a horse —and in many cases of his life— may be prolonged several years by proper attention to his teeth. The food that a horse eats is not cooked for him and his grinders must be in almost perfect condition, otherwise he becomes a hard keeper. The teeth should be given attention as often as once a year. It is poor economy to feed a horse all he will eat and still have him in poor condition and capable of giving only a mediocre service in return.

Don't forget to make your horse stalls as comfortable as possible for your horses. See that no cold drafts can enter under the floors, through broken windows or around badly fitted doors. Keep your horses well bedded. It will pay in their extra efficiency.



Cleans churns, hygienically —purifies every part and leaves no greasy film

Old Dutch



My Best Friend

Is a mother who has once used Chamberlain's Cough Remedy, for she makes a point of telling other mothers about it, and they pass the news around. This has made Chamberlain's Cough Remedy a household favorite through the world.

Just ask some mother who has used it what she thinks of Chamberlain's Cough Remedy—She will tell you that it enables her to get her children through the winter without serious illness from coughs, colds or croup.

"Granny" Chamberlain

Chamberlain's Cough Remedy

She will tell you that it is as thoroughly reliable for the youngest child as for the oldest members of the family. You can give it to the baby, the children going to school, or take it yourself, always with the same result—a quick relief.

Yours for Health —Granny Chamberlain.

27

OMAZON
A Canadian and Medicinal Food for Horses, Cows, Hogs, Sheep, Fowls. Nourishes, Strengthens, fattens, prevents sickness. Ask for free VETERINARY BOOKLET.
Dr. Ed. Morin & Co.
Limited.
QUEBEC

POULTRY.

FRESH AIR, GOOD CARE

Now that cold weather has arrived, the chickens must receive more and more careful attention. Probably they have been running at large ever since the garden stuff was gathered, and if the place is large enough very likely they have been running all summer. Fine for them. Bnt now they must be confined and cared for or all the results you get will not amount to much. The early chicks ought to be well developed, fine birds and the pullets should have been laying for some little time. And with care they can be made to keep it up all winter. Birds that are not confined will take good care of themselves, and thrive, but when confined they have no such opportunity.

All too many fine birds are shut up in close but cold, damp, disease-breeding houses and are still expected to do their best. This they cannot possibly do. They must have fresh air, plenty of light and freedom from dampness or disease will get them sooner or later. Even if they are not really sick, they cannot thrive under such conditions. The only proper place for good birds in this or any other climate, except possibly the most severe, is the open front or semi-open front house, the open side preferably facing the south, the east being second choice, but under no circumstances facing the north or west. All other sides of the house should be absolutely tight, so that no draft is possible. The open side should be open nearly to the ground, so that the sun may penetrate every corner and crack. Have curtains that may be lowered on the coldest nights, and a protected roosting compartment is a good thing in very cold regions, but even this protection should be only sufficient to prevent the combs from frosting.

That's the kind of a house to have, but it isn't much good unless it is kept thoroughly clean and dry. It must be cleaned thoroughly every day to make conditions perfect, and the more days are skipped, the worst will be conditions and the less satisfactory the rtsults. Removable roosts and good roosting boards make the daily cleaning an easy task, but the proper spirit must be behind the worker or it will soon be neglected and often not done at all. Better not keep any hens than to keep them in this way. The litter as well as the roosting boards must be kept clean. Fresh litter should be put in the houses frequently, and the litter should be kept to a sufficient depth so that the birds will have to scratch for their food. It is essential that the nests and everything else about the place be kept clean, or mites and lice will be added to the poultry-house pests, all of which may be kept away with the application of intelligent care and a little labor.

But it is also necessary that the birds be properly fed, or the eggs will be few. There must be pure, fresh water within reach at all times, also a well-balanced dry mash before the birds whenever they choose to seek it, and always plenty of grit and shell for all. The grain feed must be well balanced, not too much corn or oats, and plenty of wheat, the proportions depending largely upon the location, breed of birds and quality of the grain. A little care in observation, and the experiences of others will soon teach one how best to prepare the grain ration; but one thing is important—when the birds are confined, they must have plenty of food and water. I do not believe in wet mashes, but believe in serving all food dry and allowing the birds to moisten it as they see fit. Grain may be warmed in cold weather, and the birds should also have some kind of green food every day.

Another thing, they should have a good clean dust bath at all times. With these conditions constantly maintained, there will be no scarcity of eggs, even though the breeding of the birds be but indifferent. Of course, breeding is important, but proper care is even more so. H. L. G.

A Book made from photos. Under the eye of the camera a housewife shows how to lighten work in the kitchen.

Lighter Day—the Coal Range with the Handy-height oven—is clearly shown in every operation. Use the coupon and get a free copy.

15

Here is help for those who prepare the big dinners on the farm.

Here is a range that does away with all the stooping, the constant bending over that makes baking days so wearisome.

The Lighter Day is a Coal Range with a Handy-height Oven.

The Oven has a Clearview door of glass. Once a dish is placed in the oven, you need not touch it until it is done.

There is no stooping to place it in the oven, and no stooping to watch it as it bakes.

And capacity! There is warming space almost treble that of other ranges. The Warming Closet above the oven is directly heated by the fire. It is an auxilliary oven. Under the oven is a Warm Storage, wide and deep. It will keep a huge dinner piping hot.

The Hot-water Reservoir has great capacity and heats very rapidly.

There are six pot-holes, four in the big roomy top, and two enclosed.

Many thousands of women are lightening their work with the Lighter Day. Over 700 dealers sell them. See one and you will delight in the many new features that save labor.

If you cannot see the range, let us show it to you in our booklet "A Lighter Day in the Kitchen." It is free if you use the coupon.

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Send free book
of photos of
Lighter Day Range

.....

REMEDY FOR FALL COLDS

Fowls, like humans, frequently take slight colds, says Country Gentleman. If treated in time, these can be easily overcome and serious consequences avoided. The first signs of cold in a flock are usually slightly sticky nostrils, bubbles in the corners of the eyes, and perhaps sneezing. This is the opportune time to treat the trouble, before it develops into something more serious, such as roup.

The first thing to do is to find the cause and remove it. Then some remedy should be administered to help the fowls get rid of what cold they have. We have found the following, which can be filled by any druggist, excellent in treating flocks of poultry with slight colds:

Magnesium sulphate, 10 oz.; magnesium oxide, 1 oz.; sulphate of iron, 2 oz.; ground ginger, 2 oz.; flower of sulphur, 3 oz.; red pepper, ½ oz.

All the ingredients should be in the form of fine powder. We have always mixed this powder with moist mash, using a heaping tablespoonful to every 25 mature fowls.

We have found it best to use the remedy in the mash two or three days in succession and then skip a day or two and repeat. A week to 10 days of this treatment, combined with the removal of the cause, will usually overcome the trouble if treatment is begun early.

EARN $10.00 A WEEK AT HOME

The Hosiery trade is booming
Help to meet the huge demand

Industrious persons provided with profitable, all - year - round employment on Auto-Knitters. *Experience and distance immaterial.*

Write for particulars, rates of pay, etc. Send 2 cents in stamps.

Auto-Knitter Hosiery (Can.) Co., Ltd.
Dept. 306E ; 257 College St., Toronto

POULTRY

November.

Begin the month right by starting to keep accurate account of your receipts and expenditures. A simple way to keep track of the grain used is to have a supply bin in the poultry house. The grain can be easily weighed and the amount recorded each time the bin is filled.

The Stock.—By the beginning of this month, pullets should have been in their winter quarters several weeks and should be either laying or just about to begin. Give them regular attention; see that the hoppers are kept well supplied and that the water pans are kept filled. Be sure that the hens and pullets are in separate pens as it is impossible to do justice to both where they are running together.

Feeding.—The pullets should be fed heavily for egg production and the hens—the breeders—fed on a light ration. Feed the pullets mixed grain morning and evening. This should be buried in a deep litter to make them work for it. Keep a hopper filled with dry mash before them. The feeds used both for grain and mash feeding will depend on what are most available. Wheat, barley, oats, corn, buckwheat, are all excellent, but they are better mixed than any one feed alone. Bran, middlings or low grade flour and cornmeal, equal parts with half part blood-flour or beefscrap makes a good mash. If gluten meal can be had at a reasonable price half a part may also be added. Give them a regular supply of sour milk or keep a hopper of beefscrap where they can get what they want; also hoppers of grit and oystershell, and don't forget the green feed; mangels are one of the best and most convenient forms that can be used; a forkful of clover hay put in a rack where the fowl can have access to it will be appreciated.

The old hens should be fed sparingly and kept busy. Instead of the mash recommended for the pullets give them dry bran, or, if the mash is used, the hopper should be only opened for a limited time each day.

Market.—This is a good time to look up a market; eggs are scarce and retailers will be eager to get a regular supply.

Crate Feeding.—Continue crate-feeding. Do not try to dispose of all your surplus cockerels as soon as the cold weather comes. See that they are properly fleshed and if you are selling them dressed see that they are properly killed. Sticking, bleeding and then dry picking is the proper method. (See Exhibition Circular No. 70.)

December.

The work for December is largely a continuation of that of November. See that the houses are all ready for winter, that there are no draughts, and that the fences have been made ready for next spring's breeding. Winter is liable to set in anytime now, see that you are not caught unprepared.

This is the month that most of the turkeys and geese will be disposed of. Instead of depending on the wholesale market, get in touch with the consumer. When you put up your birds to feed, insert a small advertisement in a newspaper in your nearest city or town offering specially fed turkeys or geese for Christmas delivery. You can thus secure the retailers price and the consumer will get a first-class article in that it will have been properly fleshed and will be delivered unfrozen.

January and February.

During these months as much time as possible should be spent studying your flock, so that by the time mating season arrives you will have made up your mind exactly what birds you want and what birds you do not want to use for breeding. Of course, if you have reserved enough good breeding hens from your last season's pullets you will be all right, but if you find that you will require more hatching eggs than the hens you have will give you it will be necessary to select a pen of your best pullets.

If you have been fortunate enough to have used trap nests, you will know by this time what pullets will make the best laying records, as it is the early maturing birds that come out on top. If you have not used trap nests you should band the pullets as they begin to lay and keep track of them so that you can reserve the best for breeding next season. Let your breeding hens "rough it." Give them the run of the barnyard if possible; if not, keep the house wide open so that they will get all the fresh air and sunshine possible. Feed light, bury all the grain feeds in the litter, and see that they have all the green feed they will eat, so that they will come into the breeding season in the best possible condition.

Fresh killed, crate-fed stuff always brings high prices during these months. Your late cockerels should now be ready and capons will be eagerly snapped up at top notch prices.—GEO. ROBERTSON, Assistant Poultry Husbandman, Ottawa.

PURITY FLOUR is much whiter than milk,
Milled to perfection and smoother than silk,
Made of the finest and hardest of wheat,
Purity bread is an epicure's treat.
Deep is the longing which gleams in your eye
At the first view of a Purity Pie!
206
PURITY FLOUR
More Bread and Better Bread

"I have a Neuralgic Headache."
Don't drug yourself, it is just nourishment your nerves need.
Dr. Cassell's Tablets Nourish your Nerves.
Neuralgia and Neuralgic Headache simply indicate that your nerves are weak and underfed. Why drug them into insensibility when it is nourishment they need? Drugs cannot supply that nourishment, they can only deaden the pain for a time at the cost of bad after-effects—heart-depression, faintness; and if persisted in a drug habit may be set up.
In Dr. Cassell's Tablets you have true nerve nutrients. The active principles in them are precisely what a specialist would prescribe in cases of Neuralgia, Neuritis, Neurasthenia, and other forms of nerve weakness. They nourish every nerve-centre in the body and give to the entire system, that strength and vitality which make nerve troubles impossible. Read what a Scientist says about Dr. Cassell's Tablets.
Dr. Chas. W. Botwood, D.Sc., Ph.D., etc., of York, England, says:—"As a safe and reliable remedy for loss of flesh and vigour, nerve affections and bodily weakness, Dr. Cassell's Tablets appear to be unique. I have no hesitation in recommending them."
Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, Anti-spasmodic, of proved therapeutic value in all run-down conditions, and the recognised remedy for
NERVOUSNESS, NERVOUS BREAKDOWN, NEURASTHENIA.
SLEEPLESSNESS, ANÆMIA. MALNUTRITION.
DYSPEPSIA, PALPITATION. KIDNEY WEAKNESS
Specially valuable to Nursing Mothers and Women of Middle Life.
Sold by Druggists and Storekeepers throughout Canada. Prices: One tube 50 cents. Six tubes for the price of five. War tax 2 cents per tube extra.
Sole Proprietors: Dr. Cassell's Co. Ltd., Manchester, England.
FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing a generous free sample will be sent at once. Address: Harold F. Ritchie & Co. Ltd., 10, McCaul Street, Toronto.
Dr. Cassell's Tablets

FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

TESTING A BETHROTHED

"Alec, one of the most dangerous things in the world is to interfere in a love affair. I am not going to interfere exactly. That's not the right name for it, but I am your brother, and since you are going to take the matrimonial leap in the dark I venture to suggest a test to be applied to the girl you are about to marry."

"Mildred Huntington needs no test. She is perfect in every respect."

"Granted; but will not a proof of this add to your comfort? I will not deny that Mildred is perfect in every respect. She may be this and yet under certain circumstances think it advisable to marry some other person than you."

"What do you mean?"

"You know how hungry our American girls are for foreign titles."

"Some of them."

"Suppose Mildred should meet a British earl, a French duke, an Austrian or Italian prince, and he should propose to make her his wife, are you sure that she would stand by you?"

"Perfectly."

"Then there is nothing tobe said."

This dialogue occurred at a hotel in Maine. Alec and Fred Winston were members of a party that had been together there for several weeks, and the men were about to finish their outing by a hunt in the vicinity of Moosehead lake. Several of the girls were disgruntled at being deprived of what they considered the best part of the season's pleasures—camping in a wilderness—and demanded to be taken on the hunting trip. The men demurred, but so persistent were the women that they finally triumphed. More elaborate preparations were made, a chaperon was obtained, and instead of returning to civilization the party, consisting of five men and four women, started for the wilderness.

"Fred," said Alex the morning of their departure, "I wish you hadn't put that notion into my head."

"What notion?"

"About testing Mildred. I don't like to do it, but the temptation is becoming irresistible. I shall make the test as soon as we get home."

"You mean when you get where you will find a man to play the part of a titled aristocrat?"

"Yes."

When the party reached their camping ground and had settled themselves in their temporary canvas home. Fred Winston, who had made up the party, announced that they must have a guide and he was going out to find one. Setting out, he soon came upon a party of hunters who were about to leave the woods and asked if they had a guide who wished another job when they released him.

"There's a chance for you, Hawkesworth," said one of the party.

A man about thirty years old asked some questions about what was required and when informed said that he wouldn't mind taking the job. Having gathered his belongings, he bade goodby to his friends and started to camp with Winston. Hawkesworth was an Englishman, and Winston noticing his British accent conveived the idea of using him to make the test he had proposed to his brother upon Miss Huntington.

"How would you like," he said to the guide, "to play the part of a nobleman?"

Hawkesworth looked up at him, but made no reply. Winston gradually unfolded his scheme. Hawkesworth listened to what he said without comment till he had concluded, then said that he would not pass himself off for anything more than what he was, but he had no objection to Winston declaring that he was a prince of the blood if he liked.

"That's all I wish," said the latter.

When they reached camp Winston introduced the guide in this wise: "Permit me to present my friend Hawkesworth of London. He has the mania for hunting common among English bloods and is in the Maine woods for moose. He has consented at my invitation to honor us by joining our party, and, since he knows the best hunting grounds, will pilot us. We won't need any other guide."

Hawkesworth was made welcome, and when Fred Winston intimated that he was the Earl of Bingleton there was quite a flutter in the camp, especally among the women.

"He doesn't look like an earl at all," said one of the girls. "He's very ordinary."

"Why should an earl look different from any other man?" said his introducer. "Besides, how can style be expected from one who wears a flannel shirt? You can't judge a man by his clothes. They say that the worst dressed assembly in the world is the British House of Lords. They don't stand on their appearance. It's the fact that they are peers."

Whether Alex. Winston suspected that his brother had introduced Hawkesworth to make the test he had proposed, whether he believed the latter to be an earl, he kept his eye on his fiancee. All the girls of the party who regarded Hawkesworth with curiosity were desirous to know how they should address an earl, and were told that they might call him what they liked so long as they didn't call him anything above Tom Hawkesworth.

Hawkesworth, judged by certain attributes, was just the man a woman would admire. There was a natural air of dominating force about him. He was a silent man. It is the man who is always expressing opinions who does not get credit for depth, even if he has it. He who never talks is supposed to be always thinking. Great generals have usually been reticent men.

When the party was made up it was supposed that the women would remain in camp while the men went out to hunt, but they had not been in the woods long before it was proposed that the girls go out with the men to shoot moose. They were in camp costume, which favored the plan, and there were plenty of guns. So the four girls went with the men one morning on a hunting tramp, and it was understood that each girl should be assigned a protector. Fred Winston made the assignments and deputed Hawkesworth to be the guardian of Miss Huntington. On reaching a certain spring where numerous tracks indicated that animals came for water the party scattered, the several couples going in different directions for game, it being agreed that they should meet later at the spring.

As Hawkesworth and Miss Huntington took their departure the lady informed the guide that she wished to shoot a moose and for him to give way to her. He responded that there was no reason why she should not do so provided a moose gave them an opportunity. Intime, hearing a breaking of branches, he notified his charge to be ready to fire, and a little later when they stepped out into the open space a large buck moose was seen feeding a few hundred yards from them.

"Wait till he exposes his flank," said the guide.

He had scarcely spoken the words before the animal turned.

"Fire!" said the guide.

Miss Huntington fired, but instead of hitting the moose behind the foreshoulder she inflicted an irritating wound in a nonvital part. The animal, enraged, charged upon them.

Even a skillful hunter may wince at seeing a wild animal coming down on him to crush him. Miss Huntington's legs gave way under her, and she dropped on her knees. Hawkesworth dropped beside her, but on one knee instead of two, and leveled his rifle at the moose. Miss Huntington had no doubt that she would be trampled by the infuriated animal. There was a crack beside her and the moose dropped, plunging forward at the same time till his nose was within a dozen feet of them.

Then Miss Huntington completed her collapse by falling in a faint. When she came to herself she was in Hawkesworth's arms and he was looking down into her face with an expression that filled her with rapture.

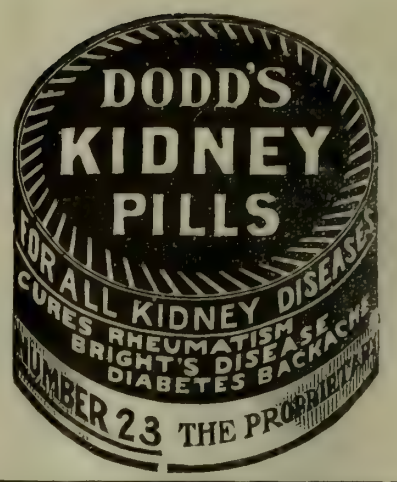
If she was to be won by an exhibition of the masterfulness of man there could be nothing more effective than what had taken place. When the two joined the others nothing was said about the adventure except that they had bagged a fine speciment of the inhabitants of the woods. But it was not long before Fred Winston told his brother that Mildred Huntington had fallen before the test to which she had been subjected. It was no news to Alec. He had seen immediately after the hunting party that he had been supplanted. But he did not know that his bethrothed's heart had been taken away from him by love instead of her desire for a title.

The party did not long hang together. Alec Winston and his fiancee were evidently at odds, and this threw a damper on the whole party. As soon as a sufficiency of game had been shot the tents were struck. When they took their departure Hawkesworth remained behind.

On the way Miss Huntington made it known to the other girls that her engagement to Alec Winston was broken. When asked the cause she replied that he had offered to release her and she had accepted the offer. Of course the announcement was made to the men by Alec, who sympathized with him, though the girls were not disposed to blame Mildred. In their hearts they felt that an earl was worth more than a commoner any day, and they were not sure but that they would have acted likewise under similar circumstances. It was supposed that the Earl of Bingleton was poverty stricken, but Miss Huntington was rich. The match, if she succeeded in capturing him, would be a good one.

That Miss Huntington had captured the prize became evident during the winter from the fact that cards were issued announcing the marriage of Mildred Huntington and Thomas Lawrence Hawkesworth. Then every one opened his eyes. What did it mean that the groom was announced on his wedding cards without his title? Surely a nobleman would not remain incognito.

Gradually the truth leaked out. Hawkesworth was not earl at all, and long before he proposed to Miss Huntington he disabused her mind of this false impression. He was the son of an English clergyman. Having a taste for woods and waters, he had spent much of his time in American forests,



A WOMAN'S MESSAGE TO WOMEN.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations bladder weakness constipation, catarrhal conditions, pain in the sides regularly or irregularly, bloating or unnatural enlargements, sense of falling or misplacement of internal organs, nervousness, desire to cry. palpation, hot flashes, dark rings under the eyes, or a loss of interest in life, I invite you to write and ask for my simple method of home treatment, with ten days' trial entirely free and postpaid, also references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by this method. Write today. Address: Mrs. M. Summers Box 309, Windsor, Ont.

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This doll is made in Canada, is 16 inches and has jointed arms and legs.

The Doll Carriage has steel frame and wheels and leatherette seat, back and hood. It is 24 inches high, just

the right size for the big Doll. If you will sell 30 packages of our lovely embossed Xmas Postcards at 10 cents a package we will send you, with all charges prepaid, our lovely 16-inch doll and we will also send you the splendid 24-inch doll carriage if you will show your doll to your friends and get just 3 of them to sell our pictures and earn prizes also.

Send us your name and address and we will send you the pictures to sell. You pay for them when they are sold.

HOMER-WARREN CO.
Dept. 90, Toronto

being enabled to do so by a small inheritance that gave him £500 a year.

And so it was that a desire to test his fiancee lost her to Alec Winston. He never quite forgave his brother for leading him to make the test, but Fred says:

"What's the difference, Alec? If she did not leave you for a title she left you for a man she liked better."

PRINCE EDWARD ISLAND WOMEN'S INSTITUTE

Marshfield Institute.—The regular meeting of the Marshfield Women's Institute was held at the home of the Secretary Miss Bessie Crosby, on Thursday, Sept. 7 at 2.30 P. M. Arrangements were made at this meeting to pack boxes of comforts to send to the boys of the community who are serving their King and Country in Europe. The members intend to again resume the work of knitting and sewing for the Red Cross Society. Miss Sterns gave a talk on the plans and arrangement of an efficient farm kitchen. Ideas were exchanged among the members after which the meeting closed with National Anthem.

Cornwall-York Institute.—The September meeting of the Cornwall York Institute was held on Sept. 4th at the home of Mrs. Enoch Drake. There were 21 members and 4 visitors present. At this meeting the members took up the subject of school improvement and all present showed their interest in this important phase of Institute work. Two members were appointed to visit the schools and a committee was appointed to report on the improvements necessary. Knitting for the soldiers is being resumed by the members. At the next meeting each member is to bring an Economy Hint.

Lakeview Institute.—The September meeting of the Lakeview Institute was held at Mrs. D. L. Morrow's on Sept. 6. The Institute held an ice-cream social recently at which fifty dollars was realized which goes towards the support of a prisoner of war. Miss Gordon was present and gave a demonstration in Millinery.

Kingsboro Institute.—Kingsboro Institute met for their September meeting at the home of Miss Gertie Stewart. There were 23 present. The Institute is making an autograph quilt for Patriotic purposes, and are resuming their knitting for the soldiers. They are also arranging to send scrap books to the soldiers in the hospitals, with the "news from home." Miss Gordon was present and gave a demonstration in Millinery.

Murray River Institute.—The Murray River Institute met on Friday, Sept. 1st. The regular business was discussed. Thirty-three dollars were raised with an autograph quilt and 7.50 was donated to the Institute for Patriotic work. The Institute is having a spinning bee on Sept. 20th. All the members expect to be present and the day will be spent in spinning, sewing and packing a box of socks to send to the front.

St. Peter's Day Institute held their monthly meeting on Sept. 8 at 8 P. M. Miss Gordon was present and gave a demonstration in Dry Cleaning and Removal of Stains.

Red Point Institute held the September meeting on 5th inst. 3.30 P. M. Miss Gordon was present and gave a demonstration in the making and covering of hats. Owing to the busy season the attendance was not as large as usual. The members intend to resume knitting for the soldiers.

Miscouche Institute held their regular meeting on Sept. 5th at 8 P. M. There were 20 members present. The regular business of the meeting was discussed after which Miss Macfarlane gave a demonstration in Dry Cleaning and Removal of Stains. At the next meeting one of the members will give a practical demonstration in the Canning of Chicken.

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GOLD DUST MAKES PANS LOOK SO NEW THEY'RE NEARLY GLEAM AS MIRRORS DO
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Souris West Institute.—The regular meeting of the Souris West Institute was held on Sept. 8 at the home of Mrs. Hugh MacDonald. Paper on the Influence of Flowers by Mrs. Walter Simpson, Bayview, was read and much enjoyed by the members. Miss Gordon gave a talk on the "Canning of Fruits and Vegetables." The Institute is purchasing a map for the school.

Macdonald Institute.—The regular meeting of the Macdonald Institute was held on Sept. 13th, 2.30 P. M., at the Macdonald Consolidated School. There was a good attendance. General business was discussed, also ways and means of raising funds. Miss MacFarlane gave a practical demonstration in salad making.

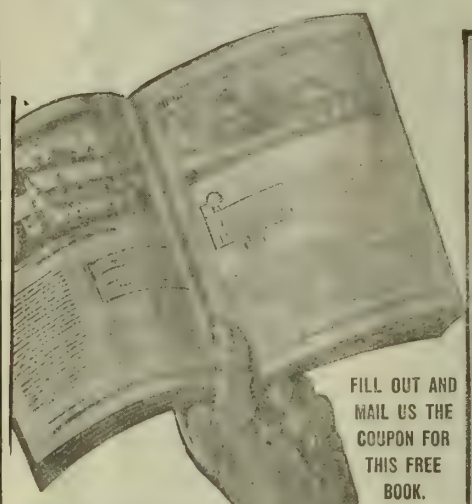
Montague Institute.—Montague Institute met on Sept. 8 for their regular meeting, which was held in their new Institute rooms. Miss Macfarlane was present and gave a demonstration in salad making. Upwards of 400 dollars was realized by the Institute serving dinner at the Park on the day of the annual races. This money is to be divided among the various Patriotic funds, including the Belgian Relief and the Y. M. C. A. fund for soldiers.

Georgetown Institute.—The Georgetown Institute held their regular meeting on Sept. 8 at 7.30 P. M. There were 27 members present. General business was first taken up, after which a talk and discussion followed on dyes and dyeing. Miss Macfarlane was present at the meeting. Salad making was taken up, and recipes were distributed among the members. The Institute has improved the primary room of their school, endeavoring to make it a model room.

Darnley Institute.—The regular meeting of the Darnley Women's In-

LOUDEN BARN EQUIPMENT

FOR QUALITY FOR SERVICE FOR SECURITY



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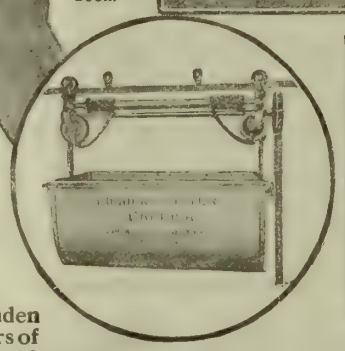

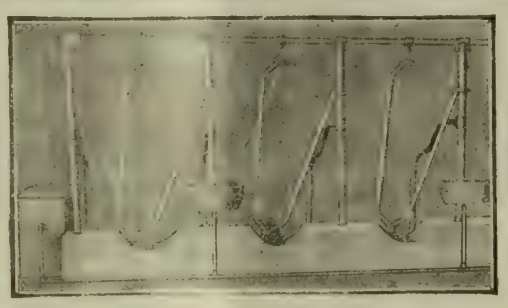

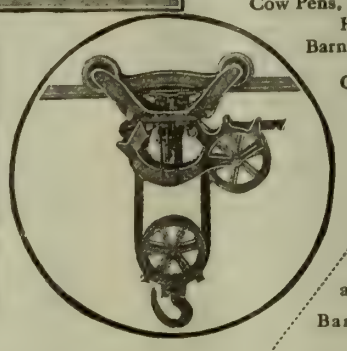

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Barn will be about x ft.

Name.....

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VANCOUVER, B.C. WINNIPEG, MAN. ST. JOHN, N.B.

stitute was held in the school house Sept. 13th, 3.30 P. M. Miss Gordon was present and gave a talk on house furnishings. The Institute is planning to instal new desks in the school room, and a committee was appointed at this meeting to enquire into prices on same. An autograph quilt is being made by the members to increase their funds for Red Cross work.

New Annan Institute.—The New Annan Institute met at Mrs. E. J. Wright's home for their regular meeting on Sept. 15. There was a good attendance. The members are busy knitting for the soldiers at the front, and they plan to send in the near future boxes of supplies to the boys of their community who have enlisted. Miss Gordon was present and gave a demonstration in the making and serving of salads. Next meeting will be held at the home of Mrs. William Morse on Oct. 22nd.

Meadowbank Institute.—The regular meeting of the Meadowbank Women's Institute was held on Sept. 20th, 3 P. M. in the schoolhouse, with a good attendance. The roll call was responded to by a quotation from well known poets. The regular business of the meeting was transacted after which Miss Gordon gave a demonstration in "Flower making." At the November meeting of the Institute the school children will be present and will give a demonstration in Physical Drill.

Harrington-Winsloe Institute.—The regular meeting of the Alexandra Institute was held on Sept. 18, 3 P. M., at the home of the Secretary, Miss Rebecca Stewart. After the regular business of the Institute had been taken up, Miss Gordon gave a demonstration in stencilling. The Institute has been very active in Red Cross work, and all the members do their share in knitting for the soldiers. The next meeting will be held at Mrs. Cephas Nunn's when a demonstration in salads will be given by the Supervisor.

Mapleleaf Institute.—The Mapleleaf Institute held their regular meeting on Sept. 21st, 2.30 P. M., at Mrs. A. J. Linkletter's, Sherbrooke. There were 35 members present. The regular business was taken up, after which Miss Gordon gave a demonstration in dry cleaning. The Secretary of the Institute sends reports of the Institute meetings to the members who are unable to be present at the

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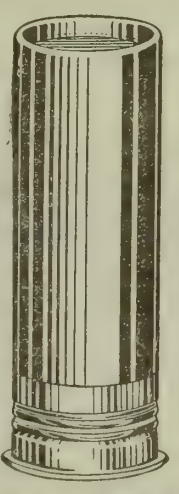

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in your shotgun or rifle gives a feeling of confidence that makes satisfactory results certain. Sportsmen who *know* select it for its speed, accuracy and penetration. The big "D" trade mark is your guarantee of the best Ammunition that money can buy.

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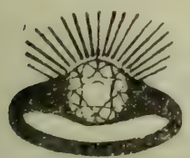

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If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers, Box P. 309 Windsor, Ont.

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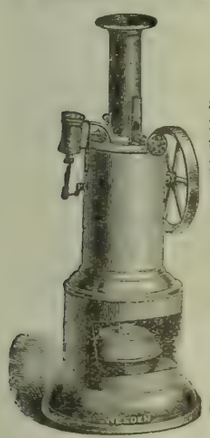

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Runs like sixty, spurting steam and making as much fuss as though it were running the electric light plant in your town. Has brass lacquered boiler, with safety valve, blued steel fire-box, with spirit burners, and blued steel chimney. All running parts of best quality metal.

Send us your name and we will send you 30 sets of our beautiful embossed Xmas Post Cards to sell at 10 cents a set. Six beautiful cards in each set. When sold, send us the money and we will send you the engine, all charges prepaid.

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meeting. This is appreciated very much by the members as they can keep in touch with the Institute activities. Hospital shirts to be made up were distributed to the members, who are also doing a great deal of knitting.

Springfield Institute.—The regular meeting of the Springfield Women's Institute was held at the home of Mrs. B. Haslam, Sept. 22nd at 7.30 P. M. Miss MacFarlane was present and gave a demonstration in "candy making." There were upwards of 45 present at this meeting. The Institute is continuing knitting for the soldiers.

New London Institute The New London Institute met for their regular meeting at the home of Mrs. David Coles on Sept. 20, 2.30 P. M. All the members were present and several visitors. Miss Macfarlane gave a talk on "pickling". During the afternoon all were busy knitting socks, and the regular meeting was held in the evening. The Institute supports a prisoner of war, and in addition to the amount sent monthly, they are planning on supplying clothing to him, which they believe will be very acceptable. Plans were begun at this meeting to hold a social on Hallowe'en.

Stirling Institute.—The Stirling Institute met for their regular meeting on Sept. 21st in their Institute rooms. Miss Macfarlane was present and gave a demonstration in Stencilling, and a talk on Pickling, and recipes were distributed. All the members are busy at Red Cross work and a large amount of knitting is being done.

Success Institute.—The regular meeting of the Success Institute was held at Graham's Road Hall, Sept. 19, 7.30 P. M. Miss Macfarlane was present and gave a demonstration in Stencilling, and distributed recipes for Pickling. $5 was voted to the Belgian Relief Fund. $5 to be sent to Miss Plummer for soldiers Xmas Gift fun, $10 voted to purchase yarn for knitting.

Alpha Institute.—The monthly meeting of the Alpha Institute was held on Sept. 20th, 8 P. M., at the home of Mrs. George Crockett, York. There was a good attendance of members. The Institute meets weekly to knit and sew for the soldiers, and at their regular Institute meetings many of the members take their knitting. Miss Sterns was present and gave a demonstration in salad making, and printed recipes were distributed.

Malpeque Institute.—The regular meeting of the Malpeque Women's Institute was held Sept. 14th in Malpeque hall. There were 17 members present. Mrs. Sinclair McGougan was appointed president for the year. The Institute has funds on hand to be expended in renovating the interior of the hall. The members have arranged to have the school rooms cleaned regularly. Two papers were read and discussed by the members at this meeting.

Thanksgiving Institute.—The regular meeting of the Thanksgiving Institute was held on Sept. 12th at the home of Mrs. J. E. McNeil, Wellington. There were 18 members and 7 visitors present. The Institute has started an autograph quilt to raise funds for Patriotic purposes, and the supply of socks is about ready to send to 105th regiment. At the next meeting, which will be held Oct. 12, Miss Gordon will give a demonstration in Millinery and hints in a talk on Pickling.

Organization Meeting.—A meeting was held at Mt. Carmel on Sept. 22nd, and an Institute organized by Miss Sterns with a membership of 28. This Institute promises to be a successful one, and an invitation is extended to ladies of the vicinity to attend the meetings.

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BUILDINGS ARE SAFE
WHY build with inflammable wood when you can get fireproof, weather-proof and lightning proof "Metallic" building materials. They are far cheaper in the end. "Empire" Corrugated Iron Siding is easily and quickly laid and makes a strong, rigid wall. Its light weight makes heavy construction unnecessary.
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Before buying any building materials write us for Booklet and complete information. We can save you money.
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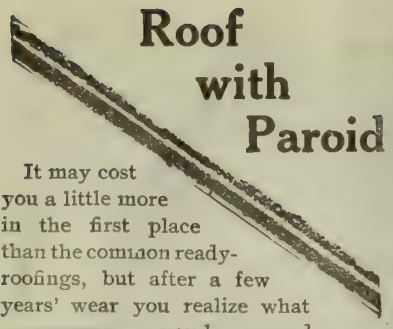
WHEN CHILDREN GET INJURED ACT PROMPTLY

The following article in "WHAT TO DO IN AN EMERGENCY" is from the pen of Maria Wheeler, formerly superintedent of the Babies' Hospital, New York City. If you have children in the home read it.

In families where there are young children emergencies are apt to arise whic h requires prompt action, as on this the child's life may depend. Think and act quickly. Be calm and keep your wits about you in the following situations:

Choking

When children are fed at irregular hours, or whenever they cry, they get the habit of putting small objects



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It may cost you a little more in the first place than the common ready-roofings, but after a few years' wear you realize what you have saved.

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Paroid has given real roofing satisfaction for the last 18 years.

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Paroid saves you money on repair bills each year.

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The largest manufacturers of Roofings, Wall Board and Roofing Felts in Canada. 111

Look for the Paroid Roll
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into their mouths. In case a child swallows a marble, a coin, a fruit pit, or a small trinket, give it solid food—a cereal, some bread or potato. The object will become imbeded in it and carried along through the intestines. Watch the stools for twenty-four hours to make sure that the article has been evacuated. Never give a cathartic. It will cause the contents of the intestines to become watery and to rush through the intestinal tract, leaving the object to lodge in some fold of the intestines, causing inflammation or an ulcer. Beware of safety pins. There is nothing so difficult to dislodge from a child's throat as an open safety pin. It usually requires a surgical operation.

The child's throat is small and a bit of food easily swallowed by an adult will choke it. Fatal accidents have been caused by giving a child a piece of meat to suck. When such a foreign body lodges in a small child's throat, the child should be turned upside down at once, grasping it by the feet. Several sharp raps between the shoulders should dislodge the food. An older child may be relieved simply by the blow between the shoulders. In case no relief is obtained, insert the thumb and forefinger or first middle finger in the child's throat and try to remove the obstacle. If the object is caught further down the passage, give the child three or four mouthfols of bread to swallow. This may carry the obstruction down with it. Children should be taught to eat slowly and to chew the food very fine after it has been cut in small pieces.

OLD-STANDING COUGHS
Cured by
Veno's Lightning Cough Cure.

Veno's Lightning Cough Cure is just as quick to relieve the coughs and bronchial troubles of the old, as it is those of the young. Veno's cures at all ages, and its wonderfully soothing and healing effect is never more strikingly shown than in the treatment of those old-standing coughs and wheezings, that asthmatic breathlessness from which so many old folks suffer. All coughs yield to Veno's Lightning Cough Cure. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

"CANADIANS AT YPRES."
(See Store Windows.)

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LADY'S HOUSE DRESS.

By Anabel Worthington.

A woman who keeps her house in order without the aid of a helper needs a dress of just such simple loveliness as the one in the illustration, so that she may be quite presentable to the unexpected caller.

This model is thoroughly up to date with a waist that is bloused quite full and, shaped with a tuck in each front turned toward the armhole, the effect is pretty. The left front, closing with button decoration to yoke depth, adds the necessary smartness. Although the neck finishes without a collar, the sleeves are cuffed with contrasting goods.

The seven gore skirt has a plait at each side front seam and an under box plait in the centre of the back, so that the same fulness that stamps an afternoon dress in the mode is featured in this serviceable garment.

It may be made of seersucker, linen, chambray or checked gingham. The ease with which the design can be reproduced will surprise and please you.

The dress pattern No. 8011 cuts in sizes 34-44. To make in size 36 requires 5⅜ yards 36 inch material with ⅜ yard contrasting goods.

MISSES' AND SMALL WOMEN'S DRESS.

By Anabel Worthington.

Individuality, simplicity and grace are perfectly expressed in this one-piece frock, designed especially for misses and small women.

Successful style treatment is shown with a panel, full length at back and front. The waist has the becoming open neck outlined with contrasting goods; the sleeves extending to neck edge give added interest to the model—they are cuffed neatly with a turn back of the same material that contributes the collar.

At normal waistline a belt fastening in front with a fancy buckle arranges the fulness and marks a skirt section that flares fascinatingly at the lower edge. While the combination idea is most effectively carried out, all one material may be employed with satisfactory result.

In the wool materials, serge, gabardine, striped and checked goods will be smart looking in this style. Navy blue serge with cream color broadcloth for collar and cuffs is another choice; all wool poplin trimmed with black satin is also suitable. Then if you really want to set yourself up, there is velveteen to develop this model in. There is almost no work at all to the making of it.

The dress pattern, No. 8,019, cuts in sizes 14 to 20 years. To make in size 16 requires 4 yards of 44 inch goods, with 1⅝ yards for front panel, collar and cuffs. In all one material 5 yards of 44 inch goods will do.

Sick Headache and Biliousness

CURED BY

MILBURN'S LAXA-LIVER PILLS.

Mrs. Willard Tower, Hillsboro, N.B., writes: "I have suffered something awful with sick headache. At times I would become bilious, and would have severe pains in my stomach after eating, and have a bad taste in my mouth every morning. I told some of my friends about it and I was advised to use Milburn's Laxa-Liver Pills. This I did and and they cured me."

When the liver becomes sluggish and inactive, the bowels become constipated, the tongue becomes coated, the stomach foul and sick and bilious headaches occur.

Milburn's Laxa-Liver Pills clean the foul coated tongue and stomach and banish the disagreeable headaches.

Milburn's Laxa-Liver Pills are 25c. per vial, 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont

Foreign Bodies in the Ear and Nose

When children poke anything into the ear or nose, inflammation or a nasal discharge often results. Such a condition may easily be mistaken for a chronic cold. A dry pea or bean in the nose will swell and become embedded in the soft tissue, which makes its removal difficult. Ordinary small objects, such as shoe buttons, a wad of paper, or a fruit pit may be dislodged if the free nostril is firmly pressed with the finger and the child is told to blow its nose hard. Should this be unsuccessful, tickle the nose with a feather to bring on sneezing, or use a little snuff of pepper. A hard sneeze will accomplish wonders. If these methods fail, call in a doctor before serious inflammation sets in.

Foreign bodies in the ear are more difficult to remove. Should the object be an insect, a few drops of oil in the ear will usually float it out. Syringing the ear gently with warm water often dislodges the foreign body. Pull the ear outward and upward, placing the

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

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Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

Many Women Suffer From Pains in the Back.

When the back begins to ache it is a sure sign that there is something radically wrong with the kidneys.

What you want is a kidney medicine. Doan's Kidney Pills are not a cure-all, but a medicine for the kidneys only.

Mrs. L. Melanson, Plympton, N.S., writes: "I am sending you this testimonial, telling you what a wonderful cure Doan's Kidney Pills made for me. For years I had suffered so with my kidneys I could hardly do my housework. I used several kinds of pills, but none of them seemed to be doing me any good. At last I was advised to try a box of Doan's Kidney Pills. When I had taken the first box I found relief. I have used five boxes and to-day I feel like a new woman. I cannot recommend them too highly."

Doan's Kidney Pills bear the trade mark of a Maple Leaf and are put up in an oblong grey box. See that you get "Doan's" when you ask for them.

Price 50c. a box, 3 for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

When ordering direct specify "Doan's."

nozzle of the syringe at the upper part of the opening of the ear. Use a soft rubber syringe. A pea or bean cannot be removed in this way, for water will drive it further into the ear. When a child has poked any hard object into the ear send for a doctor.

No Crop Produces Profits Like a Maple Grove

Take any crop that you grow and figure out how much profit you have left after paying for ploughing, seed, fertilizing, cultivating, harvesting, labor, keep of horses, wear and tear on machinery, etc. Add to your cost a month of hot, dry weather and you are lucky to come out even.

Now go to your nearest neighbor who has a sugar bush with up-to-date equipment and ask him to tell you honestly how much syrup and sugar 100 average size maple trees will produce, how much he sells it for and what it costs to make it.

You will find that, acre for acre, a sugar bush will produce a bigger profit than any other crop that you grow—and with less cost for equipment, with less labor and in less time—besides the sugar season comes at a time of th year when no other work can be done.

Maple products are now higher in price than at any time in the history of the industry, let us show you how to produce the highest quality syrup and sugar and obtain the highest prices.

Ask us today to send you the fullest information about sugar making without cost to you.

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Rolled Gold Locket and Chain

Will give this beautiful rolled gold locket and chain free of all charge to any girl who will sell 30 sets of Beautiful embossed Xmas Postcards, at 10 cents a set (six lovely cards in each set).

Send us your name and we will send you the cards to sell. When sold send us the money and we will send you the locket and chain. Address:

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Dept. 91 TORONTO, ONT.

Foreign Bodies in the Eye.

A cinder or a grain of sand will often become embedded in the eyeball if the eye is rubbed hard. The simplest way to remove the cinder is to pull the upper eyelid backward and downward, holding it there for a moment while the child blows its nose vigorously. Or let the child roll its eye from side to side and downward, when the object can be removed with the fold of a clean handkerchief. If the upper lid is pulled out and down over the lower lid and permitted to fly back quickly, sometimes the lower eyelash will sweep out the offending particle. If the irritation is obstinate, wash the eye out, using an eyecup filled with a solution of boric acid.

Plain warm water used with an eyecup is excellent. Wash the eye every half-hour. A scant teaspoonful of vinegar or lemon-juice to a cup of warm water makes an excellent wash when lime or boiling limewater gets into the eye. A weak solution of bicarbonate of soda will neutralize any acid in the eye. But irritation from this cause or any other should respond to these simple methods of home treatment within a reasonable time. When it does not, call in the doctor. The eye is too delicate an organ for one to take any chances with it.

Burns are caused by a dry heat or flame, scalds by hot water or steam. Both are painful and may be serious in their effects. A burn that simply scorches or blisters the skin need cause no special apprehension. The pain may be relieved by compresses of clean cotton cloth or linen, wrung out of a strong solution of bicarbonate of soda and water, or by cloths saturated with vaseline, olive oil or clean, sweet lard. Cover the dressing with a layer of cotton to exclude the air, as exposure to the air makes the injury more painful. If the skin should be blistered, do not puncture it to let out the water, for if the outer skin remains unbroken a new skin forms beneath it, thus preventing a raw surface. It is the extent of the surface involved which causes danger in case of a burn or scald. When burns are very extensive or very deep a doctor should be sent for as quickly as possible, or the patient should be taken to the nearest hospital. If the hands are burned, the fingers should be stretched apart and each finger bound up separately, otherwise they will grow together in less than 24 hours. It is well to remember that when the clothing catches fire, the flames mount rapidly to the highest point. Therefore, if one is standing, the fire soon reaches the head. If the clothing has caught fire, the person should be placed in a recumbent position on the floor or ground without delay and a blanket, rug or cloak should be thrown over him to smother the flames. The fire is soon extinguished if the flames have no chance to rise.

BRUISES AND CUTS

When a child has received a bad bruise from a fall or a blow, or if his fingers have been jammed in the door or window-sash, at once cover the bruised part with a compress of gauze or clean soft cotton cloth, wrung out of cold or hot water. Cold water reduces the swelling, hot water prevents discoloration of the parts. If the skin has been broken, wash the wound carefully, removing any dirt or unclean matter that may have been ground into it, then bind over the raw surface a square of clean cotton cloth, spread with boric acid ointment or vaseline.

Deep or incised wounds made by glass, a knife blade or a nail should be thoroughly cleansed by letting cold water from the faucet run into the wound; then wash with peroxide and bind on a pad of gauze, soaked as there may be bits of glass or other irritating matter in the wound. If the wound bleeds profusely, a pad of absorbent cotton should be held over the place for several minutes until the bleeding subsides.

In Case of Poisoning

Little children are mercifully guarded from many dangers. Considering that they cannot protect themselves by the use of the judgment exercised by an adult, it is wonderful that so many escape serious injury through accidents, etc. When a child has swallowed an active poison, or has been poisoned by foods improperly prepared, the important thing is to cause vomiting at once. This may be done by tickling the back of the throat with a feather and giving big draughts of greasy or soapy water or a glass of warm water in which has been dissolved a teaspoonful of mustard. See that the child is kept nauseated at frequent intervals to remove the poison. Then soothe the stomach with milk, white of egg beaten up, barley water or oil. The soapy water will neutralize poisons containing harmful acid, such as oxalic acid. In case of poisoning with caustic acid or potash, let the child have plenty of water containing vinegar or lemon juice. Every mother should know how to give "first aid" when accidents happen, for the saving of a life may often depend upon it.

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FINISHING LAMBS FOR THE BLOCK

(Continued from page 93)

should only be as a supplement to clover hay and roots. Generally speaking, the richer the hay and the better it is cured, the more profits will be made in feeding it to lambs. Coarse dry roughages of any sort are less palatable, more wasteful and less profitable than are the finer feeds of the same varieties.

Succulent roughages play a very large part in profits from lamb finishing. Generally speaking, good succulent roughages, such as turnips, mangels, sugar beets, corn ensilage, pea and oat ensilage, or the like, make the dry roughages and grains more palatable and more digestible. Again these succulent roughages are cheaply grown and are rich, nutritious foods in themselves. Where corn ensilage may be raised for $2 per ton, it is the cheapest and best succulent roughage for lamb finishing. When fed with clover hay and grain it will produce 5 per cent greater profits than a mixture of turnips, clover hay, and grain. However, a mixture of turnips and ensilage with hay and grain will usually give greatest profits. The turnip is the safest root to feed in finishing lambs, particularly where wether or even ram lambs may be found in the pens. Mangels, particularly, may have a dangerous influence on the kidneys of wethers and rams.

The grains which may be most profitably fed vary considerably from year to year with the market values of those grains commonly found in Canada. Oats, barley, and feed wheat are all excellent grains for lamb finishing and may be fed whole or crushed but never fine ground. A mixture

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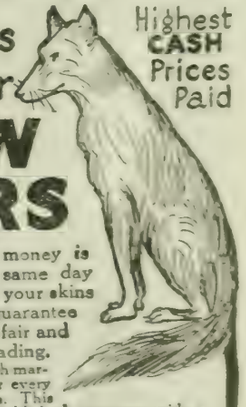

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of these three will usually give much better results than any one grain singly. Corn is anothr grain which excels in the fattening of lambs, particularly those requiring only a short finish. Corn-fed lambs on the Central Experimental Farm have reached a profit of $2 per head, making great gains at a reasonable cost. However, at the present market prices corn would not be profitable for this purpose. Elevator screenings also are very valuable in lamb finishing, varying in value, however, in direct proportion to the variation in the quality of the screenings. Where there is a high percentage of broken kernels of wheat and barley and oats, screenings may have a food value almost equal to a mixture of barley, oats, and wheat. Elevator screenings containing a high percentage of black-seeds and foreign matter have less feeding value. Screenings with dirt and black-seeds screened out give the greatest gains and profits. A mixture of whole screenings with barley and oats has given from 10 to 40 per cent greater profits than the screenings alone, the variation being due to the varying quality of the screenings. Black-seeds alone are most unpalatable and are dangerous to feed, in that a large proportion of the feed will pass through the lambs in an undigested condition and will again germinate on the land. Black-seeds fed alone are unprofitable and the lambs will make small gains if compelled to depend on this feed for their sustenance.

It is doubtful if, under average conditions, any high percentage of mill feeds can be fed profitably in lamb finishing. However, where grains are very expensive the following meals may be profitably used. Bran is an excellent addition to a grain mixture. especially in the absence or partial absence of succulent feeds. Linseed oil cake might often be profitably added to the grain ration to put a final finish on the lambs. Gluten meal is even superior to the linseed oil cake. Cottonseed when not exceeding 10 per cent of the ration may often be a profitable addition to the grain ration. Middlings, shorts, and fine ground grains are of a pasty nature when moist and should not be fed.

To briefly summarize the feeds, one might say that the character and quantities of feeds depend largely upon market conditions and feeds available. A ration including some good succulent roughage and properly balanced as to nutritive contents will almost invariably give greatest profits. Generally speaking, it will not pay to exceed one pound and a quarter of grain per lamb at the finish, nor will it be profitable to feed more than 5 pounds of succulent roughage and 3 to 5 pounds of dry roughage per head per day at any time during the finishing period.

Cost of Equipment.

The cost of equipment for the finishing of lambs is very light. Warm quarters are not necessary for sheep of any class. Sheltered sleeping quarters, free from draughts and having a dry floor, are usually all that is required. A good, tight, single-board shed with doors opening to the south or, for the prairie provinces, a straw shelter or even the protection of the bush or the straw stacks, would, under average conditions, be ample for this purpose. Cheap, convenient racks and troughs or a combination rack and trough will cost little per carload of lambs fed and, if made portable, may be used for both summer and winter feeding. No other class of stock requires so little in cost of equipment, in buildings, utensils, preparation of feeds, or in any other way as do sheep. In these days when labour is extremely scarce, this phase of animal husbandry should appeal strongly to the farmer who has not sufficient labour to go into dairy husbandry, swine, or even beef cattle.

Get "King Cole"

when you buy the Tea. You remember, Dad, how we liked the flavor, just as the advertisements said. Besides, KING COLE is guaranteed and I feel I can *depend on its quality.*"

"You'll like the flavor"

PREPARE NOW FOR THE WINTER BY FIXING UP ABOUT THE FARM

The good brown earth that has yielded its golden harvest safely this year, into the hands of the patient husbandman, is covered over with Canada's "Beautiful," the winter snow, the soil's white, warm. protecting blanket and counterpane in these Northern lands. But before it comes to take possession of all the land, the farmers have somethings to do. The hay is in the barn and the grain is perhaps in the sack; the silos have been filled and the roots drawn to the root house. The harvest of the year has been garnered and much of the fall ploughing done, preparatory to the next year's operations. What else is there to be done? Much—much in a variety of little things, before farm homestead goes into winter quarters. Our Canadian winter is always best appreciated when full preparation and provision has been made for its coming. Even in the city well-ordered residences are made ready to go into winter quarters, much more should the farm house and the farm buildings.

The writer does not set himself up as an authority on all points to be observed, but he merely exercises the privilege of being in a position to re-

Hunger Stalks Through Belgium NOW!

While we in Canada are bringing in the harvests, filling our store-rooms and stocking our pantries with an abundance of good food—our Allies in overrun Belgium are facing another winter of near-starvation.

Women and children there by millions have gone for two years on short rations, for the Belgian Relief Fund has never been sufficient to provide full fare. Consequently they are in no condition to stand the still greater privations threatened on account of the growing number dependent on the Fund. Anything less than the present meagre allowance of bread and soup would, in thousands of cases, fail to hold bodies and souls together.

Shall we—can we—go on eating our three square meals a day—living well if not luxuriously—while Belgian children, pinched and cold, sobbingly beg their mothers for bread enough to stop the gnawing hunger?

$2.50 a month in the hands of the Belgian Relief Commission, will feed a Belgian family. A cigar less a day—a night missed from the theatre—simpler refreshments after an evening's cards—the price of any one of a dozen such habitual luxuries would provide the food that means life for a Belgian mother and her children till the end of the war.

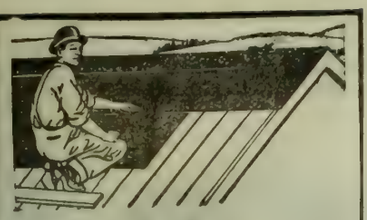
Won't your own meals taste better when you know some little Belgians also are enjoying the food which you provide? Whatever you feel that you can spare, send your subscription weekly, monthly or in one lump sum to Local or Provincial Committees, or send Cheques payable to Treasurer

Belgian Relief Fund

59 ST. PETER STREET, MONTREAL.

$2.50 Feeds a Belgian Family One Month.

26



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mind thousands of farmers of the necessity, economy and comfort to be derived from the making of adequate provision on the farm for the advent of winter. He merely desires to mention a few of the things that the farmer can and should do, in this direction. The danger is in putting them off too long and so rendering the doing of them doubly troublesome or altogether impossible. The snow is frequently proceded by cold rains, sleet and ice which make it extremely difficult to accomplish things that would have been easy, if done before the first ice and snow came.

It would, perhaps, for the purposes of advice, be well to begin with the house, because that is the shrine of the farm home life and the place where its glory should dwell, and the best part of that glory, during a Canadian winter, consists in warmth and comfort. To secure these it would be well for both the master and the mistress to look around betimes and have everything possible done. It would be well to have the double-windows put on and to see that they fit properly; also that the cellar is clean and sweet before it is banked and closed up. The stove wood should all be cut and split and stacked in the wood shed or other convenient place where the good housewife can easily get at it. The garden and lawns should not be neglected. The latter should be manured and the shrubs and plants that require winter protection should be duly covered with straw or coarse linen. If dealt with properly at this season they will come out all right in the spring. It would save impairing or destruction to have the gates to certain approaches to or exits from house or buildings, either firmly propped open or taken off the hinges and removed for the winter. Half open gates and rails embedded in snow look bad and can be mighty inconvenient.

A clean farm-yard is a good thing to have under the snow; otherwise it comes out as a perfect mud puddle or partial cess pool in the spring. Especially should the paths and approaches between the house and the barn be in good condition before the snow comes. And they should be kept firm and level during the winter.

Coming to the barn and buildings it would do well to see that the stable will be well ventilated without being draughty and warm without being close and stuffy. The ventilators and flues should be examined and put into perfect order if they are not found to be so. There is no reason why the windows of the barn and stable should be so dusty and dirty as they are generally found to be. Sunlight is one of the best atmosphere purifiers and clear bright windows will admit very much more of it than dusty or dirty ones; besides they look better clean than dirty. The doors to the barn, the stables and other buildings should swing well and easily and fit nicely, so that they won't constantly be getting blocked by hard snow and wrenched off their hinges by rough banging to close them.

But more money can be saved in the department of farm machinery and implements than in any other, by means of a little care at the right time. How often one sees ploughs, harrows, rakes, and even more complicated implements or machinery left out in the yard or even in the field to be at the mercy of the elements all winter. A little care at the right time would save a lot of trouble and expense the next spring. For this it is necessary to have a machine house, or sufficient accommodation in the barn at least for all the machinery and large implements. Before putting up such machinery, it should be cleaned and the parts oiled. Iron and wood work are both very assailable by wet and damp. Oil and varnish and paint are the great protectors against these corroding agents. A dry shed is another. It is well also when putting implements and machinery away for the winter to see that they are in perfect condition, that there is nothing lost or in a broken condition. Now would be a good time to have the loss or repairation made good, instead of in the spring when time is precious. No farmer can be too careful with his farm machinery.

THE PASSING OF A PROMINENT BREEDER

D. G. McKay, one of the foremost Guernsey Breeders in the Maritime Provinces and President of the Canadian Guernsey Breeders' Association since 1907, passed away at his home, Spruce Grove Farm, Scotsburn, N. S., on November 1st. Mr. McKay was well known to readers of the Maritime Farmers, who we are sure join with us in extending our and their sympathy to his bereaved wife and children.

Mr. McKay was straightforward, conscientious and hospitable. He will be missed in his home district, where his example was for advancement in all matters for the good of the community. He will also be missed by his fellow breeders and many friends in all parts of Canada.

His son, Alex. H., who was associated with him in Guernsy breeding, will continue the business under the old firm name, D. G. McKay & Son.

One of Mr. McKay's sons, is one of the officials of the Saskatchewan Department of Agriculture and another is with the Ontario Department of Agriculture.

Most of the farmers of Egmont Bay, P. E. I., took their lambs to Wellington on November 4th. The number shipped totalled approximately 550. One lamb brought $11.80 to its owner.

A small investment in money will add a whole lot to the comforts of the dairy stable. Why not see if you cannot make a better place for your cows and a better place for you to work?

"I earn $2 a day at home"

You may say that, too—if you want more income. Easy to learn. Steady work at home *the year round.* Write Auto-Knitter Hosiery (Canada) Co., Ltd. Dept. 306 F 257 College St., Toronto.

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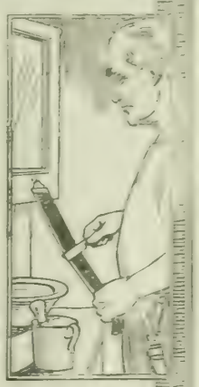
In its own way the Gillette is as quick, efficient and convenient as your milker, your binder or your telephone. It compares with other razors as these modern inventions compare with the things they have replaced.

Without honing, stropping or fussing, the Gillette will give you the easiest and most comfortable shave you ever enjoyed, in five minutes or less! It makes shaving an every-day pleasure instead of an irksome twice-a-week job.



"Bulldog", "Aristocrat" and Standard Gillette Sets cost $5.—Pocket Editions $5 and $6—Combination Sets $6.50 up.

You can buy them at Hardware, Drug, Jewelry, Men's Wear and General Stores.

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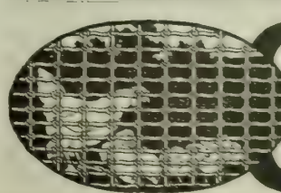

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The Banwell-Hoxie Wire Fence Company, Ltd.,
Winnipeg, Man. Hamilton, Ont.

CANADIAN PAINTS TO FOREIGN COUNTRIES

Further evidence of the fact that Canadian manufacturers are availing themselves of the present opportunity to strengthen their position in markets, is contained in an announcement made by Mr. George Henderson, President of Brandram-Henderson, Limited, at the company's annual sales convention which has just been concluded.

Mr. Henderson said that the company's export business has been greatly txpanded within the past year, and its Canadian-made white lead, paints and varnishes are now going in large quantities to South America, Russia, France, Cuba, and the West Indies. Further development of this export trade is being aggressively promoted, and the company's sales representatives are leaving this month to establish new connections in South America, Australia and China.

The convention also brought forth very satisfactory reports with regard to Canadian business, indicating that present prosperity is well distributed throughout Canada.

MILKING CLEAN AFTER CALVING

A subscriber says he has noticed in times past that some authorities have advised against milking a cow clean right after calving and he asks for reasons for such advice.

There are two main reasons: First, we have noticed in our fifty years of close observation that cows thrive better that were not milked out clean; they were less liable, we thought, to attacks of milk fever. Second, that is nature's way. No new-born calf was ever able to take all the milk his mother would secrete in the first few days after his birth.

And so from these two standpoints or facts we have deduced the judgment and formed the practice of not milking a cow dry right after calving.—Hoard's Dairyman.

USE DRUGS WITH CAUTION

A neighbor saw in a farm paper that blue ointment was good to kill lice on cattle. He tried it last spring and his cattle were soon taken sick. He called a veterinarian who pronounced it mercurial poisoning, but he saved four head and lost two which were worth $100, while the veterinarian's charge was $10. (John C. R. (Editor's Note —Blue ointment is poisonous, but when used in small quantities it is very effective for killing lice on stock, poultry, etc. A piece as big as a pea is enough to grease a fowl. If used too liberally it will cause poisoning as stated above.)

A Prince Edward farmer informed us some time ago that he had met with serious loss in his pure bred herd of dairy cattle by using Red Precipitate, Mercurie oxide, to kill lice. He used an excessive quantity of the powder, and not only killed the lice but also some of his valuable cows.

BARRENNESS

Please tell me what to do for a cow that is barren. She is not sick in any way only she will not bear.

W. J. K.

Inject into the vagina two or three times a week, until the cow comes in heat, a gallon of lukewarm water containing an ounce of pure phosphate of soda and when she is in heat balloon the vagina by injecting warm water, then slightly open the mouth of the womb by introducing a sound or probe and have the cow bred an hour afterward. Persist in the treatment if she does not conceive at the first service.

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If you want a powerful car, economical to buy, economical to run—that will take you in comfort over any roads that can be travelled; that will take any hill on high that the biggest cars will take; that will give you 25 to 30 miles per gallon of gasoline, buy a,—

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Electric Starting and Lighting
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See nearest Chevrolet Dealer

The only consolation for the creamery buttermaker is that his position is no different from that of other men in other lines who are doing equally responsible work. All have their troubles. None are so perfect they do not make mistakes, and none are so well informed that there is nothing about their business for them to learn.

Heavy loss in spring litters can be avoided by not having the sows farrow too early. If you have not first-class facilities to take care of March litters, then hold the mating until December 6, which will bring farrowing time April 1. The period of gestation in sows is 116 days.

Senator Yeo and Hon. John Richards held an auction sale ff young Shorthorn cattle recently at Summerside. Good prices were realized. Prof. Theodore Ross, North Bedique, also conducted a very successful sale.

Narrow doors are dangerous in the sheep barn, for sheep always want to go out at once when the door is opened. Rebuild the doors so as to make the openings 8 to 10 feet wide.

Preparedness for Now and After the War

THE KEY NOTE OF THE

SHORT COURSES

AT THE

College of Agriculture, Truro, N.S.

FREE to ALL students of the Maritime Provinces—

Farmers, Farmers' Sons, Wives and Daughters—

No age limit, from sixteen to over seventy. Equal Privileges for both sexes.

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YEAR 1917

Over 250 students attended last year. Additional attractions should bring more in 1917. The extra special attraction will be the series of lectures and demonstrations, during the first week, by Dr. C. A. Zavitz of Guelph, America's greatest crop expert.

MEN'S SHORT COURSE

Instruction in all branches of Animal and Field Husbandry, Farm Management, Veterinary Science and Allied Agricultural Sciences. The College staff will be assisted by leading experts from the Maritime Provinces and Ontario. Included will be representatives of the Dominion Dept. of Agriculture and the New Brunswick and P. E. Island Departments as well.

COURSE FOR WOMEN

Instruction and demonstrations in Dairying, Poultry Husbandry, Gardening and Domestic Science. Given in the beautiful and spacious class rooms for Women in the new Science Hall.

This course will be extended into a six weeks course if there is sufficient demand.

For particulars write to

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Principal of College of Agriculture,
TRURO, N. S.

Unique opportunity for the busy farmer to get in touch with agricultural education in the shortest possible time.

Special excursion rates on all Maritime Province Railways and on the Boats from Prince Edward Island.

The Maritime Poultry Show

Owing to the Winter Fair Buildings Amherst, being used for Military purposes, will be held this year in

Moncton, N. B.

Remember the Dates

DEC. 12, 13, 14, 15

Send for a copy of the prize list, then make entries and be sure to attend the big show

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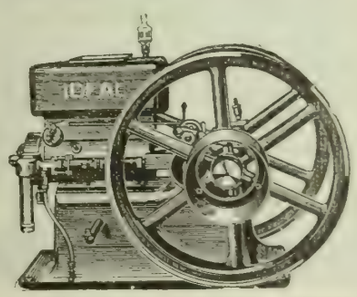

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Such refreshing fragrance, such skin softening and cleansing!—
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Tuberculosis Rapidly Increasing Among Children of Belgium and Northern France.

More Food Urgently Needed to Keep up Their Strength

An interview with Mr. W. L. Honnold, American Director of the Belgian Relief Commission, brings to light a new danger threatening the population of the territory occupied by Germany.

Mr. Honnold reports that about 5,000,000 wholly or partially destitute people, who have been dependent on the Commission, generally show diminished vitality. The effects are most apparent among the older children, particularly those in the adolescent stage. Among these there is an alarming increase of tuberculosis, due to the lower power of resistance consequent on an inadequate diet.

To overcome this serious danger, the Commission appeals for extra contributions so that a special meal can be served every day in the schools. Efforts are also being made to provide as far as possible for children outside the schools

This can only be done—Belgium's children can only be saved—if every one of us who can possibly do so will give something toward the Fund. Whatever you can afford, send your subscription weekly, monthly or in one lump sum to Local or Provincial Committees, or

Send Cheques Payable to Treasurer

Belgian Relief Fund

59 ST. PETER STREET, MONTREAL.

$2.50 FEEDS A BELGIAN FAMILY ONE MONTH.

PIGS IN ORCHARD—LOGANBERRIES

A Digby County subscriber subits the following questions for reply in the columns of the Maritime Farmer. Replies by W. T. Macoun, Dominion Horticulturist:—

Q.—Can I successfully raise pigs, expecting them to cultivate trees and eat up the couch grass by the trees?

A.—While you should not depend on hogs for cultivating an orchard, it is true that they will work up the ground to a certain extent and in so doing make conditions better for the growth of the trees.

Q.—Will they injure trees if allowed one row of trees at a time fenced off

A.—While they do not usually injure trees if left free range in the orchard, if they were confined to a single row of trees, it is possible that they might do some harm. Therefore, it might possibly be necessary to drive in some strong stakes about each tree.

Q.—Will Loganberries grow in Nova Scotia and mature successfully?

A.—Loganberries would mature in the warmer parts of Nova Scotia providing the plants come through the winter safely. A good plan would be to lay the canes down so that they will be protected with snow. Where Loganberries are grown to the largest extent commercially namely, on the west coast of America, the winters are very mild.

Q.—Where can I obtain the bushes or scions.

A.—Loganberry bushes can be obtained from any of the larger nursery firms in the parts of the country where Loganberries succeed well.

W. T. MACOUN.

COOPERATIVE LAMB SELLING ON PRINCE EDWARD ISLAND

During late years a number of the farmers' Institutes of P. E. Island have adapted the selling of lambs as a unit instead of individually as was formarly the order. Excellent results have attended the new system of selling wherever it has been tried out, especially from a financial standpoint. As well there is the improvement in the care and breeding of the flock which results from the breeders being more closely associated.

An example of the value of Cooperative Selling is selected from the reports received by the Department of Agriculture in which the Rev. P. C. Gauthier, Secretary of Palmer Road Institute gives the following record for 1916. "All the lambs of the Institute weighing over 60 pounds live weight were sold for 8⅞ cts per pound. The total lot of 70 flocks averaged 90 pounds per head, while from these, 44 flocks averaged 95 pounds and 15 flocks averaged 100 pounds. The best average for any flock was 124 pounds which was gained by the only woman of the community who raises sheep. The best single lamb weighed 148 pounds and brought $13.14 at the selling price and the best fat sheep weighed 204 pounds and brought $12.24.

Of the factors responsible for such excellent returns the use of pure bred rams of mutton breeds stands preeminent. Last year the Institute purchased twelve pure bred Shropshire rams which were placed with members requesting them and at purchase price. In all cases there is a marked gain in weight over last years flock of lambs which runs from seven pounds in the lowest average to seventeen in the highest.

It may also be noted that no gain was noted where the system of breeding had not been altered from former years. Such an example as this speaks stronger than mere advice for the use of pure blood in many sections where it is still generally unknown.

CLOVER SEED HULLING

The Department of Agriculture is operating a clover seed huller. If a group of ten farmers have a reasonable quantity of clover containing seed, the Department will be pleased to send the machine to thresh the same. For particulars write,

J. B. DAGGETT,

Secretary for Agriculture, Fredericton, N. B.

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

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HANTSPORT, N S.

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Moncton, N. B.
G. J. Schmidt, Principal.

THE WINTER TERM

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AND

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Volume 22. SUSSEX, NEW BRUNSWICK, DECEMBER 5, 1916. Number 5.

Adequate Water Supply Always Within Reach For Profitable Stock Raising

At the time of writing this article, November 22nd, the ground is covered with six to eight inches of snow, the ponds are frozen over, although the mantle of snow has prevented the freezing of the ground to any great extent. Lumbering operations are being briskly carried on by the various operators. The hauling of timber and lumber is quite general, where hauls are short and roads fairly smooth, which is rather unusual so early in the season.

A few farmers were caught napping, or rather were overtaken by the early cold snap and as a consequence a portion of their turnip crop is still unharvested.

Young stock came in from pasture in good shape, they were not subjected to cold driving rains and sleet storms before being housed. Many farmers complain of a scarcity of water in their dug and driven wells and not a few of the smaller brooks are stone dry. This is particularly true in regard to portions of this County. It is something unusual at this season of the year when wells are usually brimming over to see farmers hauling water for their stock.

The mantle of snow, which is usually welcomed by our farmers, did not receive its wonted greeting this winter. Rain would have been preferred from the water supply standpoint.

The ground hardened considerably during the extremely dry weather experienced in August, September and October, so that when a rainstorm of fairly decent proportions swept over the country it did not penetrate the ground to any great extent, but ran off down the hillsides into the creeks and rivers and off to the sea, where its usefulness as a help to fill the depleted wells and water courses was lost for the time being.

This mantle of snow is however, conserving the moisture already in the soil and should the weatherman see fit to melt the snow before the real old fashioned winter weather season arrives, and should there be showers of rain, it will be found that the earth now moistened by the conserving powers of the snow will soak up the snow and rain water in good shape and act as reservoirs from which the wells will again replenish their wonted water supply.

The stockman requires an abundant water supply in order to bring his stock through the winter in good shape. An abundance of food without a sufficient supply of water for the requirements of the stock will not do the trick.

We believe all classes of live stock should have an abundant supply of clean water within reach at all time, and it pays the stockman well to make provision for the same.

The stockman who can rest comfortably when his cattle have not been watered oftener than once in twenty-four hours or more is not humane. Even where stock is turned out to water or when a trough in their stalls is filled twice a day, there may be cases of acute suffering from thirst in the herd. Particularly is this true on stormy days, if the stock has to drink in an unsheltered place.

We have often seen cattle on stormy days driven to the water trough, or brook, where holes had been cut in the ice, take just a sip of water, then scowl, shake their heads and put back to their stalls to endure the pangs of thirst until their owner saw fit to turn them out again. Even in cases where an animal takes a quite a large drink, considerable suffering may be endured unless there is access to water oftener than once or twice in twenty-four hours.

How often human beings take a long, cold drink of water and in a very short time require some more water to slack their thirst. How much they suffer if water is not available just then. Animals have their feelings in regard to food and water just the same as human beings have. The human being can make known his or her wants but the poor dumb brute usually must patiently endure until such a time as the herdsman makes his customary rounds. This is the condition existing in many cases where it is absolutely unnecessary and could be avoided.

Should an animal over gourge with ice cold water, after a period of suffering from thirst, the effect may be serious and a sick or dead animal may be the result.

Keep Ice from the Watering Trough

A recent issue of the Breeders' Gazette says anet the subject of keeping the watering trough free from ice:—

"Preparations for putting herds and flocks into winter quarters include a provision for taking the chill off stock water. Ice water is a luxury for the jaded palate of the human in hot weather, although the doctors warn against its use, or at least its abuse. Floating cakes of ice in the watering tank on a zero morning cost more than a water-tempering plant We learned long ago that the bovine is somewhat akin to the human in its taste for cool water. Warm water is not relished by cattle, but no one has ever seen a cow remonstrate at the presence of cakes of ice in the watering trough would imagine that ice water was acceptable in the winter. Tepid water, water with the chill taken off, best suits the taste and conserves the bodily heat. Some stables are so warm that the well water turned through the concrete feeding and watering trough or the iron troughs in front of the stanchions needs little or no tempering, although when held in storage tanks it is apt to stand near the freezing point when admitted through the pipes. Tank heaters are of value; these metal contrivances are set in out-of-door tanks, and a slow fire is maintained in them, the formation of ice being thus prevented. Better still, and more convenient, is a tank heater installed in the feed-room or boiler-room on farms which utilize such plants, or made to do double duty for house and barn where proximity of these buildings permits. The convenience of a constant supply of hot water on tap can scarcely be measured in the farm house. It is sometimes possible, now that such conveniences are bringing added comfort in the homes of farm people, to hitch on a pipe to the hot water tank and conduct it to the barn, if the run is not too great. Insulation is readily enough secured. This would give a supply of hot water to temper the drinking troughs of whatever nature, to mix the swill for the swine, to make the hot mashes for the poultry, and to wash the harness, the buggies and the autos. Plans for home building or remodeling or barn building should include a careful study of systems devised to keep the water on tap for the manifold uses to which it may comfortably and profitably be put on farms."

Advisability of Cow-Testing Work and Proper Care of Milk and Cream Clearly Demonstrated at the recent Halifax Exhibition

W. A. MacKay, Dairy Supt. for Nova Scotia at the right. Chas. Pippy, A Cow-Testing Official at the left.

Water Bowls—What the Cattle Think of Them.

We have read with much interest a folder issued by one of the manufacturers of Water Bowls, who are consistent advertisers in the columns of the Maritime Farmer. The major portion of the booklet is written from the cows' viewpoint, and we believe if cows were able to talk or write the sentiments, their expressions would coincide with those given in the booklet in question.

The opening paragraph is in the form of the following resolution:—

Whereas the undersigned used the — Waterbowls and find that they increase milk production, save many weary steps through the cold to a trough or spring, enable cattle to thrive better, look better, weigh more,

give richer, better milk, and save veterinary bills. We strongly recommend them to every farmer and will guarantee to make enough profit for the farmer, which will pay for the bowls in a very short time.

Signed Madam Holstein.
Lady Ayrshire.
Aberdeen Angus.
Squire Shorthorn.
Madam Jersey.
Butterfat Guernsey.
White Face Hereford.

"I Give More Milk."

Says Madame Holstein:

"I must have plenty of water to do my best. I must have that water constantly before me, so I can take a little sip of it whenever I want it. If I am neglected and allowed to go thirsty my milk production is sure to suffer, for milk is 80% water. I can't be expected to do my best in the winter months, if I am chased out into the cold twice a day to gulp down icy water from a freezing trough or spring."

"Put in Water Bowls, sir and in 3 months my milk yield will increase enough to pay for them."

A Prominent Holstein Breeder says:—

"My long experience breeding Holstein Friesian Cattle and I have had considerable success with them, proves that they can give the most milk only when they have plenty of fresh clean water constantly before them. Let them drink as much as they want to and as often as they like. It is out of the question to expect the best from any cow that has to be driven out to drink in all kinds of weather. Water Bowls in the stable are a paying investment.

"I Will Produce Cheaper"

Says Lady Ayrshire.

"I am nervous and sensitive. I cannot bear blows and cross words. Kind words and kind treatment are just like nourishment to me and I pay them back by giving more milk.

"What I cannot stand is being herded out on a biting winter morning or in a blizzard to gulp down a few hasty mouthfuls of water from the barnyard tank. The big bullies are sure to push in ahead and the rest stand and shiver until they are too cold to drink very much. Often, too, I have seen cattle slip on the ice around the trough and get permanent injuries from the fall.

"Then after I have been driven back to the stable, I shiver and shake until that icy water is warmed up to the temperature of my body.

"Of course I need exercise, but isn't it better to water in the barn with water bowls and just let out into the barnyard for exercise on mild, sunny days?

"I will appreciate this kindness and I will show my appreciation in the milk pail."

A Prominent Ayrshire Breeder says:—

"The Water Bowls are a decided success. I don't think I ever spent the same amount of money that gave me so much comfort and profit."

I'll Take First Prize.

Says Aberdeen Angus:

"I am Glencarnock Victor I, Grand Champion Steer at the Chicago International Fat Stock Show. I want to say that water bowls helped to put me there. My owner is J. D. McGregor, Brandon. Many western farmers think that steers are hardy and can stand ill treatment. So steers are exposed to wind and storm and forced to take icy water. But it don't pay. A steer would sooner go thirsty than gulp down gallons of freezing water. Many a beast is 100 pounds thinner than it should be—not because it hasn't enough to eat, but because it hasn't enough to drink.

"The dairy cattle get all the good things. They are kept in clean, well ventilated barns, where the temperature is comfortable. Many of them have their flanks washed and dried before they are milked. They are carefully milked, and above everything else, have all the water they want, right before them.

"My owner thinks that beef cattle dserve a little consideration too. Evidently he is right. Read what he says.

"The use of the Water Bowl Outfit in my stable by keeping water at an even temperature constantly before the animals has helped me in producing prize winning stock.

"It is much better to have the water before the animals in the stable than to have to drive them outside, particularly where we get so much cold weather in the winter as we do in this country. That is the reason that we went to the expense of putting a water system in and we use it altogether on our farms."

I'll Put on More Weight.

Says Squire Shorthorn:—

"It's my opinion that a farmer loses money when he waters beef stock at a trough. Driving us out in cold weather and breaking the ice for us to drink wastes our body heat and we have to eat more to bring it up again. Feed is the fuel that keeps cattle warm. So isn't it cheaper to water us in the barn where the warmth is not lost?

"Much of the feed we get in winter time is dry. It must be softened and the fibres wetted before it can be digested. This takes a lot of water. There is a limit to the amount of roughage, etc., we will take without plenty of water to quench our thirst. We can't take half what we need if we have to drink it from an icy trough.

"I like the water in the water bowls, because it isn't too cold and it is before us all the time."

A prominent Shorthorn breeder says:—

"Water Bowls are generally used for Dairy Stock, I know, but I believe they pay just as well for beef stock. I find I can fatten my animals with less work and expense, and I can put more weight on them than when they are watered in the trough or forced to drink from a tank in the yard; this is especially true in winter time when the cold weather makes the job of watering them by the old method a very disagreeable one. Moreover, I believe beef stock will respond to humane treatment just as well as the Dairy Cows."

I'll Give Better Milk

Says Madame Jersey:—

"Like other cows, I need plenty pure water to give the best milk. I must not be made to quench my thirst at some muddy stream or barn yard pool. Impure water is likely to give the milk a taste. Ropy milk is often due to contact with mud or muddy water.

"The water trough that some farmers have in their stables is the cause of impure milk and disease in the herd, for the cow at the end of the trough has to drink the slobber and leavings of the others.

"Water Bowls provide lots of fresh, clean water for the cows. They make the milk worth more money."

One of Canada's foremost Jersey Breeders' says:—

'In regard to Water Bowls, we regard them as an essential in a dairy barn. See that there is lots of water and see that it is pure. Otherwise, not even Jerseys can give their best milk. We would not want to be without our Bowls and wonder why any farmer would try to do without them, for they pay back all they cost."

Fewer Veterinary Bills

After a cow eats, digestion can't commence until the food in the stomach reaches a temperature of 80 or 90 degrees. When she takes a large quantity of cold water the stomach is chilled and digestion set back an hour. This often causes indigestion.

When cows drink from a trough a sick animal soon gives her disease to all the rest.

The pollution a cow will swallow if given freedom to drink from barn yard pools or muddy streams is enough to poison her. If cows are allowed to drink the contaminated water they stand in they are very likely to become infected with some disease. The infection often finds its way to the udder and often a quarter of the udder becomes diseased. The loss by reduction of the milk flow, the reduced value of the animal, the lowered value of her milk, and the veterinary bills would pay a large part of the cost of a water bowl outfit.

A prominent Veterinary Surgeon says:—

"Careless watering makes money for me."

As already stated, much of the foregoing is the sentiments of cows if they could so express themselves. They cannot speak in words, but they speak by their actions and it is well for every reader of the Maritime Farmer to make arrangements for an adequate watersupply for live stock, available at all times. It pays. You can have such a supply if you go after it properly.

Live Stock Husbandry Leads to Prosperity

Offsets the Evils of Land Mining

With every ton of grain sold, the farm loses $5.00 to $6.00 in fertility. With every ton of grain sold as meat animals the farm loses $1.00 to $1.20 in fertility. With every ton of grain sold as butter fat, the farm loses 20 cents in fertility.

Exclusive grain farming means:

1. Selling the farm by the wagon load.
2. Uncertain returns and, in the end crop failure.
3. More and more ditches and gullies.
4. Unsteady employment of men and reduced labor efficiency.
5. Sale of unfinished products and hence lower prices.
6. More tennant farmers.
7. More temporary agriculture, (unless soil is artifically fertilized or green manuring practiced).
8. Value of load of hay, $12.00 to $16.00. Value load of grain, $50.00.

Profitable meat production means:—

1. Keeping on the farm much of the fertility produced.
2. Crop insurance and increased returns.
3. Better use of untilled land.
4. Better help and better distribution of labor.
5. Manufacture of crops into meat.
6. More farms operated by owners.
7. More permanent agriculture.
8. Value of load of live stock $100.00 to $150.00.

Profitable Dairying means:—

1. Enriching the soil.
2. A regular income and a growing bank account.
3. Fewer gullies and land more tillable.
4. Steady employment of labor and better men.
5. Manufacture of high priced finished products, better prices, and higher returns.
6. Better business methods and, in the end land ownership.
7. More permanent agriculture.
8. Value of load of cream $150 to $200.

Many sections of the Maritime Provinces are admirably adapted to stock raising and dairying, and where ever one finds a district where either stock raising or dairying or a combination of both is followed, there one finds indications of prosperity on every hand.

A Typical Nova Scotia Creamery at Bridgewater, N. S.

Not long ago we chanced to be in a locality, where in former years the practice was to sell off the farm practically all the crops grown. Little was kept at home to feed live stock, and while the condition of the farm buildings showed that the district prospered at one time, the present indications show that the sons are not as prosperous as were the fathers.

On inquiring into the cause for the apparent decrease in prosperity, a gentleman closely in touch with the situation remarked:—"The farmers of this district in years gone by shipped their farms away from the wharf in schooner loads," the literal rendering of which as indicated in a previous paragraph, was that they had

followed the system of selling off the farms practically all the crops that they raised. They had realized ready money, prospered for a while to the detriment of future generations and while they built buildings substantial and commodious an asset for themselves and those that were to follow, they depleted the fertility of their farms to the extent that present generations, who aim to get into the more progressive systems of farming—live stock raising and dairying—are having a difficult task to bring the farms back to a good stage of fertility.

The present generation is surely succeeding and in doing so in some cases they have been obliged to go easy on appearances and devote their surplus funds to the righting of the wrongs that the land mining system of farming created.

Watch them, however, and you will find that those who are discarding the land mining system and devoting their energies to live stock raising or dairying, will emerge victorious. Instead of the gradual depletion of their fertility bank, they are adding to it, and wherever there is a continuous gain, be it ever so little, the road leads to prosperity. Small leaks and losses eventually lead to adversity.

Professor Cumming and others who read the signs of the times in Agriculture, have no hesitation in saying that "Live Stock is the back bone of Maritime Agriculture," and where dairying is the branch of live stock commonly followed, Winter dairying has come to stay.

It is true that in many sections of the Maritime Provinces most of the cows freshen in the spring. Many progressive dairymen, however, are breeding their cows to drop the calves in the fall. This is particularly true in regard to dairying in the vicinity of populous centres, where there is an opportunity to dispose of large quantities of milk at all seasons. They are doing this because they have found that winter dairying has many advantages, among which are the following:—

First, higher prices are obtained for milk and cream.

Second, labor on the farm is more equally distributed throughout the year. If the cows freshen in the spring they are in full flow of milk and need the best care during the time that work in the fields is most pressing. On the other hand, if the cows calve in the fall and are milked during the winter the farmer has more time to give close attention to the details of the work, and can also give his hired men employment the year round which will insure a better grade of help.

Third, the lactation period is lengthened and the amount of milk given during the year is very considerably increased. Cows that freshen in the spring milk heavily while grass is good, but the flow of milk falls off as the pasture dries up, and with the coming of cold weather they are nearly dry. If they freshen in the fall they can at once be started on a good winter ration, and when they have been milked six months it is time to put them on pasture, and for a time the flow of milk will be nearly as great as that from fresh cows. great as that from fresh cows. Recent investigations by experiment stations bear out this observation.

Fourth, fall calves are more desirable than those born in the spring. Young calves should be fed on milk for several months, after which time they must be weaned and fed on solid food. If the calves are born in the spring they will be tormented by the flies all summer, they may be neglected because of the farm work, and when it is time to wean them in the fall they must be put on a dry winter ration. Fall calves come at a time when the dairyman can give them the closest attntion and when weaned they can be put on grass at an age when an easily digested and nutritious food is most needed.

Since more milk can be produced, higher prices obtained, the labor more evenly distributed throughout the year, and better calves raised, winter dairying offers by far the best returns to producers.

More Sheep and Less Weeds

Editor Farmer:—

Some twenty years ago or about the time our Island Province took up co-operative dairying in earnest, almost every farmer kept a fair sized flock f sheep. In fact no farm was considered properly stocked without them. However, the prices for wool and lambs kept decreasing until it was evident that little profit could be made out of them and those who had gone more extensively into milch cows, sold their flocks. The others soon followed until a flock of sheep became almost a curiosity in many dairy sections.

The style of fencing changed to suit these changed conditions. The old rail fence that could easily be made to hold anything from a sheep to a mad bull, if it were built high and strong enough, was replaced by wire. Many farmers found that two or three strands of barbed wire would hold other kinds of farm stock, and where this could be purchased from 2½ to 3 cents a lb., the saving in cost of fencing, I believe, drove more sheep off the farms than sixteen cent wool or $1.50 lambs the pick of the flock.

As the sheepless years went by, many of these scantily fenced farms began to show other evidences that these industrious workers were no longer on the job of keeping weeds in check, and on large farms many of the old enemies and a lot of new ones, began to get a footing. The owners began to realize that they had acted hastily in doing away with such valuable helpers. Some farmers from time to time added a few sheep and our farm papers kept continually advising every farmer to "keep a few sheep." The latter phrase never appealed to me as I always considered it as hard to fence for a half dozen as a half hundred sheep. However, on securing another run down farm that was energetically producing about every weed known to botinasts, I decided to start another flock, even before the war had raised the price of wool to its present higher level. In the fall of 1915 I bought 14 lambs that weighed an average of 95 lbs., the following spring, 1916, sixteen ewes were added, thirteen of which produced nineteen lambs. The other three ewes either had their lambs and lost them before I purchased them, or were not in lamb. The lambs were born from the middle of May to about the 10th June, while their mothers were on a four acre field adjoining the barn. They were given no other feed or care, except taken into a large open shed when it rained. This field fed the flock of 30 until June 15th, the pasture was short but very thick, and the lambs grew fast. After this, I put them on an old weedy pasture that had not been broken for years, the natural grass then being out in head. This I was assured by experienced sheepmen, would be the ruin of the flock. The fields, however, were laid off in five acre blocks, and the sheep changed every fortnight regularly. I weaned the lambs the 1st of October and in about another month sold ten of them. We received 8¼ cents per pound live weight, and although twelve of the nineteen were twin lambs, they averaged nearly 100 pounds each, not a bad average for lambs under five months. I kept the best ewe lambs and four of the lightest, the ten sold brought me $81.26. The nineteen lambs at five months old and fed altogether on pasture, were worth $150.00. The wool from this flock sold for an average of $2.76. So if we count only the sheep that were in lamb, the flock averaged for lambs and wool $14.22. However, that is probably not a fair comparison, so we will count the total number and the average for the entire flock of sixteen sheep was $12.13½. Considering these sheep were purchased at auction in the month of May, for an average of $8.50 each, and were fed since that time nothing whatever but pasture, this looks like pretty good money. About as large profits and quick returns as some of our fox ranches were paying a few years ago.

These ewes and lambs were of no particular breeding. I know the sire of the lambs was a proper mongrel. They were fairly large sheep and their wool graded coarse. For next season I have fifteen yearlings and five ewe lambs in a flock of 34 ewes altogether, and have now a good pure bred yearling ram to head them. But I will not have the lambs come before the middle of May, although I do not profess to be a sheepman and have not kept them for twelve years. This was always our custom when we bred and raised sheep, and we had always good success with our lambs.

Our plan was to winter the sheep on hay and always try and have them go into winter quarters in good flesh. Hay alone is quite sufficient for sheep that do not lamb before the latter part of May. They will then be on grass long enough to get in good condition for lambing. Their fleeces will be much heavier than those of early lambing ewes. They will milk better and there will not be any trouble to speak of. The twin lambs especially will come on very much faster than the older ones, and you seldom lose one. In fact, last spring we did not lose one of the six pairs of twins and we gave them no assistance or attention further than keeping an eye on them that no trouble showed up.

However, sheep are fast coming into their own, and while this mongrel flock did well, it pays to head any flock with a good pure bred ram. I attended an auction sale recently where seven yearling ewes were sold for $35 a pair. They were "high grades" from a superior ram and they were certainly magnificent sheep, carrying as they did five dollar fleeces, they were well worth the price realized, and furnished further testimoney to the wisdom of using a real, good pure bred sire.

In this Province I think we were stampeded out of the industry through the anticipated cost of fencing more than by any other reason, as the dog nuisance is seldom mentioned here. But this should not prohibit sheep raising, as it does not require such very costly fencing to any who have a spruce or fir bush on the farm, long poles can easily be cut and wired on either a plain or barbed wire fence two such poles will generally make a fence sufficiently tight to hold them or a woven wire fence two feet high stretched around the field does not cost much, and can be easily shifted from field to field if necessary. I used both the above mentioned means of tightning plain and barbed wire fencing and found no trouble in stopping this flock, that had a reputation of going through most any sort of an enclosure before I bought them. Now while dairying has and will continue to be our main line of stock f rming, I have decided for our circumstances, sheep are here to stay. We made room for both, as we were situated with a number of old pasture fields. The grass the sheep ate would without them have gone to waste. The usual custom of figuring six or eight sheep to eat as much as one cow is not a sound one, as sheep and lambs will eat and thrive on what cattle would lose weight on. These sheep (the dry ewes) are still running out on the rough pasture that young cattle would fail on, and are in good condition and are no trouble, and for our conditions, we have decided that it will pay to grow more sheep and fewer weeds.

W. M. LEA, P. E.I.

A small cheese factory operated in one of the more isolated farming districts of New Brunswick

LOSSES IN SKIMMILK

Many farmers are experiencing heavy losses, says the Wisconsin Experiment Station, because they are using separators which are out of order, running the separator too slowly, or separating the milk too cold. Mr. Swoboda, in Langlade county, has made numerous tests of skimmilk and found in some cases losses of butterfat as high as 0.8 per cent. In all cases he has located the causes of these losses and aided the farmers in remedying the defects. The other county representatives are rendering similar services to the owners of farm separators in their respective counties.

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. When paid in advance 80 cts. Persons taking advantage of the 80 cent rate are only entitled to it by paying in advance each year. When subscription gets in arrears, $1.00 per year will be charged. Subscribers are requested to bear this in mind. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

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DECEMBER 5, 1916.

DATES OF ISSUE.

December	19
January	9-23
February	6-20
March	6-20
April	10-24
May	8-29
June	12-26

THE POTATO MARKET

At the time of writing and for some weeks past the potato market has been in a very unsettled condition.

In the Maritime provinces the potato yield of this year was, according to official report, 206 bushels per acre for Prince Edward Island, 201 bushels per acre for Nova Scotia and 192 bushels per acre for New Brunswick. The average price per bushel to farmers for potatoes is 81c for Canada, 65c for Prince Edward Island, 89c for New Brunswick, 97c for Quebec and $1.28 for Ontario. Fair yields of potatoes are recorded for the prairie provinces, the averages being between 170 and 177 bushels, with prices of 92 and 93 cents per bushel in Manitoba and Saskatchewan, and 84 cents in Alberta. In British Columbia, the average yield per acre is 189 bushels and the price 70 cents per bushel. The quality of the tubers is between 89 and 95 per cent of the standard for the Maritime provinces, over 90 per cent for Manitoba and Saskatchewan and 84 per cents for Alberta and British Columbia. For Quebec and Ontario the quality is 77 and 76 per cent, and a low yield.

Last year the potato crop was almost a total failure in the state of New York and this year there were very few potatoes in the hills and those were small in size. This and only a 60 to 75 per cent of the usual acreage under the crop means that there is not a surplus in that state.

Michigan and Wisconsin had fair crops but their acreage was low.

Minnisota also had a light crop, probably not over 50 per cent. The early crop was practically a total failure, which forced the western cities to get their early potatoes from Jersey and Long Island, where the price did not go below $1.00 per bushel as compared with 25 cents to 35 cents per bushel a year ago.

Jersey marketed all its potatoes as fast as picked up, and there is no surplus to look for from that quarter.

Cuba has afforded an outlet for a large quantity of New Brunswick and Nova Scotia potatoes, but there is still a large quantity in the hands of the farmers, although prices opened fairly low and gradually ascenled to record prices.

Prince Edward Island shippers have large quantities in stock and the Plant Liner Halifax, plying between Charlottetown and Boston has been promised full cargoes each week until the close of navigation.

Although the duty stands at 10 cents per bushel, New England buyers claim they can handle Maritime Province potatoes to better advantage than they can Aroostock potatoes. It was reported some time ago that one grower in Northern Maine had refused $3200 for 8000 barrels of spuds as he looked for higher prices.

The high prices prevailing in the Montreal and Toronto markets during October and early November had the tendency to rush and glut the markets and the large dealers and consigners have allowed hundreds of carloads to stand on the track rather than put them on the market at lower prices. They want the markets to clear a little and keep the supply low and at high prices. In the mean time demurage on the cars and expense of heating is rapidly eating up the consignors' profits, and producers, shippers and dealers generally are organizing in the larger centres to boycott the use of potatoes until such a time as trey can be sold for reasonable prices.

Consumers fail to take notice of the fact that the crop was below the average in many places and that instead of exporting, some of those places will be importing before next seasons crop is harvested, so long as they know that hundreds of carloads are freezing and rotting on the railway sidings.

Shippers claim that they do not look for much higher prices and producers who have not sold must take into consideration that there is usually a shrinkage from rot and other causes while in storage, and that even higher prices later may not net them as much as the remunerative figures now offered.

KEEP TROUGHS AND MANGERS CLEAN IN WINTER

When the horses, cattle and other farm stock go into permanent winter quarters this year, will they find their mangers clean and sanitary or will they be foul with the accumulation of dust, dirt, cobwebs and droppings from hens during the past summer or even years?

In the cow barns, the practise of watering the cattle in the stable, which is a good one under proper conditions and careful management, allows the mangers to become wet enough, at times, through the drippings from the mouths of the cattle and slopping from the basins or troughs to cause all kinds of soft material to adhere to the surface. By this means odd places that are in protected locations soon become sour through chop, dirt, etc., lodging there and these are a continual menace to the health of both the cattle and men through its being a lodging and breeding place for all kinds of germs.

In order to avoid this evil condition, the cow mangers should be swept out carefully before each meal, removing any excess of water, litter, chop or feed of any kind not eaten up clean at the last meal. By following this plan no chance for the accumulation of filth will exist; and by the way, it may be noted that, through neglect, the purest and best food may soon become a filth unfit for use.

Where mangers have been unused through the summer they should have a good washing with zenoleum or some other good germicide to kill all germs and make them sweet and sanitary.

All stable floors should have their daily sweeping; not only behind the animals where the droppings are liable to accumulate, but also the feeding floors, and all persons walking about the stable should be careful that their boots are clean. All animals are particular about their food and will refuse dirty provender. The habit of spitting about feeding floors is a filthy one and should not be allowed.

In the horse stable the mangers are usually constructed with deep tight bottoms so that the finer parts of the hay, dirt, seeds, etc., frequently become collected at the bottom and wet from leaky pails or slobbering animals and other filth. These as well as the cattle mangers should be kept clean. It is not fair to give the horse a heavy day's work or a hard drive, bring him in tired and dusty and expect him to regain his normal condition with his nose over a filthy manger and to eat his supper in a place so antagonistic to his natural tastes. His instincts will rebel and often he will refuse to eat at all rather than be subjected to such ungrateful treatment.

The man who gives no attention to these details of cleanliness and sanitation, is likely to declare them to be not only unnecessary but also a waste of time and energy. Investigation, research and statistics all go to prove, however, that careful observance of the law of sanitation have almost entirely overcome many of the most dreaded diseases of the past and is holding in check others for which no specific has ever been found. Take, for instance, that dreaded disease tuberculosis which afflicts all classes of animals as well as man and which has baffled the profession for ages; the only known remedy today is largely preventive by means of fresh air and sanitary laws, which include the idea of the prevention of the spread of disease germs by means of filth, and their destruction by means of germicides, God's pure air and sunlight.

Let all men everywhere then, receive the indisputable teaching of the age and thus overcome many of the ills the flesh is heir to by adopting cleanly and common sense methods in all departments of the farm's activities.

* * *

Fruit growers and others interested in the fruit growing industry are again reminded that the Annual Meeting of the Nova Scotia Fruit Growers' Association will be held in Lawrencetown, N. S., on January 16th, 17th and 18th, 1917. At this big horticultural event experiences will be exchanged and practical talks given by men who know whereof they speak. Plan to attend. It will give you an impetus in your work to mingle with such an intelligent class of men as you will meet at the Lawrencetown Convention.

* * *

Despite the fact that the Maritime Winter Fair Buildings, Amherst, N. S., are not available for fair purposes this year, being used for military purposes, the Maritime Poultry Association will hold their Annual Show on December 12, 13, 14 and 15 in Moncton, N. B. Don't forget the dates. F. L. Fuller, Truro, N. S., is the Secretary of the Show. Write him for information. Enter your birds and plan to attend.

Save the Heifer Calves

Under the caption "Live Stock Husbandry Leads to Prosperity and offsets the Evils of Land Mining," on another page of this issue, we have dealt with the question of live stock raising and winter dairying at some length. Stock raising has been tried and proved to be one of the best means of conserving soil fertility. This is the unanimous verdict from all countries where domesticated animals thrive. Prosperity follows horn and hoof and consequently there is a heavy demand for all classes of live stock that are used for food purposes. The abnormally high prices for farm produce of all kinds and particularly of the classes of produce that are used for animal as well as human food, and the heavy demand for food animals has caused many farmers to dispose of some of their surplus stock in an unfinished condition. They hesitate to feed high priced grain feeds and consequently animals that would stand a period of stall feeding are now finding their way to the shambles, and the surplus feed is finding ready markets at high prices.

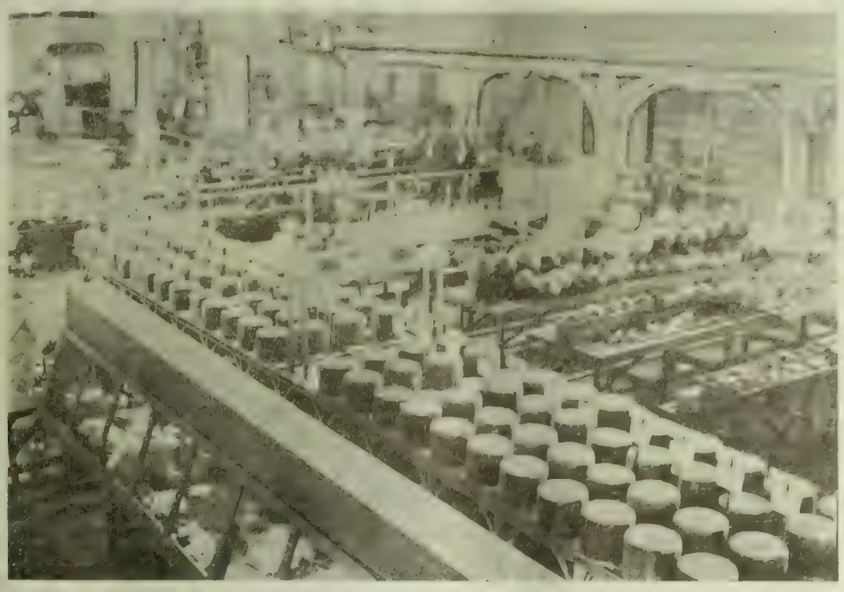

Exhibit of butter and cheese at the 1916 Charlottetown Exhibition.

But what of the future? To sell the crops direct from the farm means a depletion of soil fertility unless something is put back on the farm to offset it. Half finished cattle are always lacking in weight and quality, and consequently do not command as high prices utns.
high figures as they do when decently fitted for the block, and frequently means a glutted market at one season of the year and scarcity during the seasons when prices usually range highest.

We are told by farmers and dealers who know that not nearly so much milk is made this year in the vicinity of Sussex as was made at the corresponding time last year, despite the fact that the majority of the producers realize 40 cents and some 45 cents per 8 quart can. Thousands of bushels of turnips have been shipped at prices ranging from 60 to 65 cents per barrel. Mill feeds are out of sight and the boarder cow has heard her death knell. In a way this is a blessing in disguise, but the serious side of the affair is that not only the boarder cow but some excellent breeders and workers are also allowed to go. —As for calves, many of the farmers knock them on the head as soon as they are born, pull off the skin and throw the carcass to the hogs or bury it in the manure heap, all to save milk and feed. Hundreds of calves are thus slaughtered and their food producing possibilities wasted.

The idea of getting panicky in season of abnormal prices, be they high or low, is entirely wrong. History repeats itself and any reader who will allow his mind to revert to previous occasions, will recall that the farmer who stuck to his business in a cool, business-like way, made more money nine years out of ten, than did the panicky farmer who was strong for and with some line of farming today and out of it and into some other line tomorrow.

We predict that [illegible] after the war is over there is going to be a demand for live stock of all kinds such as was never known before in the Maritime Provinces. Farmers will do well to conserve their breeding stock and raise as many calves, particularly heifer calves, as they possibly can and be ready to take part in the business that will surely come their way.

So serious had the practice of slaughtering very young calves become in parts of the British Isles, that the government was obliged to step in and call a halt. They have enacted laws against the slaughter of young calves, not only on account of war conditions, but owing to the conditions as they existed in prewar times.

The slaughter of young calves is to a certain extent responsible for high cost of living. Slugged veal is not desirable for food, but had the young calf been saved and fed for a few weeks or longer, a large quantity of excellent veal would be the result, or if kept long enough the animal could be finished for beef. Needless to say all desirable heifer calves should be reared to take their places in the herds.

The fall calf is the desirable calf, because it can be grown to maturity cheaper than the spring calf. As was pointed out in another article in these columns. Save the heifer calves. If not criminal to slaughter so many young calves, it is wasteful, and wastefulness brings woeful want.

New Brunswick Agricultural Society United

The Annual Meeting of the New Brunswick Agricultural Societies United was held in the Provincial Government Rooms, St. John, N. B., on November 23rd.

About thirty delegates representing nearly as many Agricultural Societies from various parts of the province, were present.

As Mr. R. G. Murray, the president of the Society passed away during the year, the vice-president, B. N. Shaw of Hartland, presided.

The Secretary, Stanley Wilson of Rolling Dam, read the minutes of the last annual meeting and after adoption of same, Mr. Reed of St. John was introduced to the meeting. Mr. Reed is interested in the manufacture of Larvacide, a material which he claims will exterminate insects injurious to plant life, such as cutworms, potato beetles, etc., if used in moderate quantities in the soil. It is somewhat similar to preparations of a similar nature used extensively by farmers and gardeners in England and Scotland. Last season a small quantity of Larvacide was manufactured by hand and given to farmers in various parts of New Brunswick and Nova Scotia for trial purposes. We had the pleasure of reading letters from the various experimenters, many of whom we know personally and the unanimous verdict was favorable to Larvacide.

Mr. Reed and those associated with him are equipping a plant to manufacture Laracide on an extensive scale and will have more to say about their product to readers through the columns of the Maritime Farmer. Watch for their announcements.

H. B. Durost presented the financial statement and explaintd the operations of the year just closed. The finances are in good condition and the various transactions saved money for the Agricultural Societies who bought their fertilizer requirements through the central body.

Feeling references were made to the late president of the organization and a suitable resolution was ordered to be incorporated in the minutes and a copy sent to Mr. Murray's family.

Hon. B. F. Smith, acting minister for agriculture addressed the members and pledged the support of the Department of Agriculture in everything that tends to help along the cause of co-operation.

J. B. Daggett, Secretary for Agriculture also addressed the meeting.

For the benefit of new members, who were not conversant with the home mixing of fertilizers, Mr. H. B. Durost, Fertilizer Expert for the New Brunswick Department of Agriculture, explained the process and illustrated the manner in which quantities of the various chemicals necessary to make up formulas of stated percentages are determined.

Approximate prices for chemicals for 1917 orders were listed and some of the delegates who had their orders ready placed the same with the Secretary.

The election of officers resulted as follows:—

President—B. N. Shaw, Hartland.

Vice-President—Roy McCain, Fredericton.

Directors.—W. B. Gilman, Fredericton; Stanley Wilson, Rolling Dam; M. A. MacLeod, Sussex; W. H. Moore, Scotch Lake; R. J. Huggard, Norton.

Secretary—Stanley Wilson, Rolling Dam.

It will pay every Agricultural Society in the province to get in touch with this money saving organization.

To Specialize or Not to Specialize

To the Editor Maritime Farmer,

X-Y.—A subscriber would like to ask the following questions:

1. Which is the better plan, to combine beef raising and dairying, or to follow one line or the other.

2. In combining beef raising and dairying, which is better to have, half of your herd a beef breed and the other half a dairy breed; or to have your whole herd a dual purpose breed such as the Milking Shorthorns.

3. What would the "Farmer" consider a fair summer's yield of butter from 5 cows freshing in the spring.

Replies by J. M. Trueman, B.S.A., Truro.

1. Personally I think it better to follow one line or other, either beef raising or dairying, and not to attempt to be an expert at both. That does not mean that I would not raise any beef if I were a dairyman, or that I would not make any butter if I were a beef man. It means that I would make one or the other my leading business. If I were a dairyman I would try to be an expert in that line and to keep a first class herd of dairy cows, then if I had extra rough feed and extra pasture I might feed a few steers in addition to caring for the dairy herd.

2. I would not plan to have half my herd dairy and half beef cattle, but as suggested above would have a first-class dairy herd and buy a few feeders to make beef, or on the other hand I would have a firstclass beef herd and buy a few dairy cows to add to my butter or milk output. I do not have any faith in a dual purpose breed. The Shorthorns kept for beef will furnish a considerable amount of milk, but I would not try to breed them for both purposes. I would hold on to the beef characteristics of the Shorthorns and get as much milk as I could in addition, but would not try to make them great milk producers at any expense to their beef qualities.

3. A cow that freshens in the spring and milks for six months if given a fair chance, that is to say some grain when in the barn, and a good pasture should produce 200 lbs. of butter.

An inch of demonstrating is worth a yard of explanation.—The Main Trac'.

HORTICULTURE

A PROGRESSIVE INSTITUTE

Editor the Maritime Farmer:—

At the 2nd Annual Meeting of the Women's Institute of Halfway River and West Brook, the following officers were elected:—

President—Mrs. E. G. Lewis, re-elected.

Vice-President—Mrs. A. Hanna.

2nd Vice-President—Mrs. C. T. Harrison.

Sec'y.-Treas.—Miss E. M. Harrison.

Directors—Mrs. J. Hanna, Mrs. A. Wiles, Mrs. T. Lawrence.

Auditors—Mrs. Wm. Fulton, Mrs. Hubert Fullerton.

Our Institute has enjoyed a very successful year, the meetings being well attended and proving a source of pleasure and profit to all present. The program for each month has usually consisted of,—quotations from some famous author in response to roll call, two original papers on popular subjects of the day, read by the compilers, world wide current events by all, recitations, dialogues, speeches, and music in form of piano and vocal solos, choruses or duets. At one meeting a very interesting debate on the topic "Which has the greater advantages in bringing up a family country or city life," was participated in by all. Another rather novel and amusing form of entertainment consisted of a number of extracts being read from the Xmas number of the Institute Journal, edited and compiled by our members.

Our members have been actively engaged in Red Cross work and through their united effort the sum of $198.75 has been raised, out of which $20.00 has been forwarded to the Prisoners' Relief Fund, $25 to the British Red Cross, $25 to the Belgium Relief Fund and $125 spent in purchasing yarn and sewing supplies.

During the year a number of boxes have been forwarded containing the following Red Cross supplies:—

115 prs. sox, 13 pyjama suits, 1 helpless shirt, 65 hospital shirts, 110 handkerchiefs, 38 triangle bandages, 2 prs. pillow slips, 10 feather pillows.

EDNA M. HARRISON,
Secretary Treasurre

NAMING THE VEGETABLES

Why should there be twenty different names for the same turnip, or forty for the same tomato? This question was agitating the Ontario Vegetable Growers, in their recent session, and C. E. Durst, of Urbana, Ill., was brought over to discuss it.

"It has been charged," said J. Lockie Wilson, in this regard, "that seedsmen cater to amateurs, who are apt to purchase novelties, until by sad experience they find that the old-time standards are the best."

Mr. Durst pointed out the disadvantage of the present system of nomenclature of vegetables, as follows: "The confusion which exists is nothing more than might be expected when we consider the circumstances under which present nomenclature developed. As a body of men you are interested in the sale of seed. Your success largely depends on your advertising. Competition is keen, and one naturally inclines to take advantage of any feature that might increase sales.

"Changes now and then are only looked at from the standpoint of increased sales. New varieties are usually good advertisers, and often, on the advice of the originator, they are introduced under new names before there has been time to really determine whether or not they are actually different from, or superior to, existing varieties. The result is a multiplication of names, making it difficult for growers to buy, and lowering confidence in the dealers. Many of the undesirable sorts now catalogued will necessarily die a natural death if allowed to follow the usual course.

"One change which seems feasible, however, is a shortening of the variety names. Many superfluous adjectives could undoubtedly be dropped. It was found on investigation that Blood Turnip seed was listed by 140 firms. By the use of different combinations of adjectives, twenty different variations in the name were found, such as Early Blood Turnip, Improved Blood Turnip, Extra Early Blood Red Turnip, etc. Similar conditions exist with other vegetables. Vegetable growers would like to see seedsmen agree upon a common name in such cases. Such actions would make it possible for growers to buy the same variety from different seedsmen with a greater degree of certainty.

"Another point in existing nomenclature which is certainly worth serious consideration is the use of different names for the same variety. Take the Earliana Tomato, for instance. It is safe to say that this variety is catalogued under at least a dozen different names by various firms.

"Another point of greater concern to the growers is the large number of varieties catalogued, not infrequently as high as forty-five or fifty. The large number is due, in part, to the cataloguing of a variety under more than one name to meet the demands of different customers, but perhaps it is more largely due to the carrying of inferior sorts. In the end such procedure can not but be a loss to the seed trade as well as to the grower.

"In most cases it should be possible to reduce the number of varieties to not over ten or twelve. This would not only raise the standards of the seeds sold and crops produced but it should be a great help to the seedsmen in simplifying their business and in making mistakes far less likely.

"The growers would especially emphasize the need of purifying and perfecting existing varieties. Many of our best ones are becoming contaminated through cross pollenation with other varieties planted too near. Again, judicious selection seems to have been neglected in some cases, since the type is often quite variable."

Mr. Durst told of efforts in the United States that had been made to change the situation. These had been made since 1908, and the matter was still hanging fire, through progress had been made.

ORCHARD TROUBLES IN CAPE BRETON

R. G. Murray, Coxheath, Cape Breton, submitted the following letter to the Maritime Farmer some time ago:

"About ten years ago I planted a small orchard of apple, crabapple, plum and cherry trees. The apples and plums are nearly all dead. The crabs have been bearing well for six years, while the cherries are covered with bloom each year, but give almost no fruit. I have two varieties. Kindly let me know what I could do to make them fruit.

Following is the reply by the Dominion Horticulturist:—

In reply to the letter of your correspondent, I beg to give the following information which may be of some assistance to him:

Judging by the results it is evident that the varieties of apples, plums and cherries are not hardy enough for the district and I should suggest getting hardier sorts, although in the case of cherries it is evidently the spring frosts which are the trouble. Sometimes there will be a frost in spring when the cherries are in bloom and without a close examination one would not know that any injury had been done, and later on when the frost has been almost forgotten and there is no fruit sets, one does not know what the trouble is. If an examination is made after the frost, it will be found that the centre of the flower or pistil is blackened, although the petals may remain white, so that in the case of cherries where the injury comes in the spring, hardier varieties might not prove much more satisfactory. Unless the hardiest varieties are being tried now, it would be desirable to test them.

The fact that the apple and plum trees are dead is, I think, sufficient evidence that the varieties tried are not hardy enough. The varietis of apples recommended for Cape Breton are for summer, Crimson Beauty, Yellow Transparents; for autumn, Duchess of Oldenburg and Dudley; for early winter, Wealthy, McIntosh, and Wolf River, and for winter, Bethel and American Golden Russet, although, no doubt, some of the other sorts will do very well. The plums recommended for Cape Breton are the Arctic, Bradshaw, Imperial Gage, Gueil, Shipper's Pride, Yellow Egg, Quackenboss and Shropshire Damson. Among cherries the kinds that would be worth while trying are the Early Richmond and the Minnesota Ostheim.

Yours very truly,
W. T. MACOUN,
Dominion Horticulturist.

FORCING RHUBARB IN WINTER

Crisp, delicious rhubarb for pies can be had at little expense during winter and spring by anyone who has a garden and a fairly warm cellar. From one to three dozen clumps of rhubarb should be dug up late in the fall, and then allowed to freeze through before bringing them into the cellar.

Set the clumps of roots on the cellar bottom as closely together as possible, and pack soil in and around them. They should be put in an absolutely dark place where a temperature of 55 degrees can be maintained. A lighted lantern with a blackened globe will give heat if any is needed.

The roots must be kept from drying out by an occasional watering. The stalks, which are a beautiful light pink in color, grow to a good length with very little leaf. For convenience in handling, clumps of roots may be set in pots or tubs, although this is seldom done.

Mr. A. R. Wetmore, Clifton, N. B., grows a considerable quantity of forced rhubarb in this way.

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You can save the many middlemen's profits by securing your fur garments from us.

We buy our Raw Furs direct from the Trappers for cash, and are the largest cash buyers of raw furs in Canada, buying direct from the trapper.

These furs are manufactured into stylish fur sets and fur coats at the lowest possible cost, consistent with the best workmanship.

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Every garment is sold under A POSITIVE GUARANTEE OF SATISFACTION TO YOU or your money back.

Our sales for fur sets and fur garments last year exceeded all our expectations and were the largest in the history of the house.

This year we confidently expect still larger sales, since the people realize more and more the bargains they obtain from Hallam.

We have in stock a large and varied assortment of all the articles shown in our FUR STYLE BOOK and can guarantee PROMPT SHIPMENT.

PRIZE CONTEST—$300 in Cash given away free in Hallam's Zoological Contest, 64 Prizes—Write to-day for the 1916-17 edition of

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which gives full particulars of the contest and contains 32 illustrated pages showing beautiful and stylish fur coats and sets, moderately priced.

211—MUSKRAT COAT—Made from select dark skins, well matched, deep shawl collar with cuffs. The graceful flare skirt and stylish lines of the coat combined with the handsome reverse border effect give this garment a very striking appearance made only 45 inches long in sizes of bust 32 to 44. Price delivered to you $62.50.
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The Nova Scotia Fruit Growers' Association

will hold their annual meeting this winter at

Lawrencetown, Anap. Co., N. S.

This is a three day Convention and is looked forward to by Valley Fruit Growers as the BIG event in the Horticultural year.

Keep the dates in mind

Jan. 16, 17 and 18, 1917

MANNING K. ELLS,
Secretary,
Port Williams, - - N. S.

PROTECT TREES FROM RAVAGES OF MICE AND RABBITS

There is little use of setting out trees for the orchard, ornamentation, or any other purpose without putting forth such effort as is necessary for their protection and care. It is a very discouraging situation indeed, when, after having planted and cared for an orchard or any other kind of trees, for four or five years, for the farmer to find in the spring that the greater number, if not all of them, have been seriously damaged or perhaps utterly ruined by the ravages of mice or rabbits, and yet this frequently happens.

While the depredations from mice and rabbits vary greatly from year to year, depending upon abundance of food from other sources they are usually present in sufficient numbers to do at least a good deal of harm and the only way to be secure from their ravages is to adopt some means of prevention. The greatest menace in this direction comes from grass or other rubbish being kept in the vicinity in which these pests can find protection and build their nests. On this account it is always advisable as a rule not to have the ground in the orchard covered with sod where the mice can find shelter, or brush heaps which have lain during the summer and through which the grass has grown, forming a perfect protection for rabbits.

Where mice find conditions favorable they begin their work under the snow and when they come in contact with a tender barked tree, begin at once to gnaw it if it is not protected.

One method that has been found effective is to keep the snow tramped firm around the tree. This plan, however is open to the objection that some attention is needed all winter and is liable to be overlooked at a critical time. Probably the best and cheapest plan yet tried out is to wrap the tree with ordinary building paper. With this plan the cost of material is trifling, and putting it on is not a big job. Tar paper should not be used as it is liable to damage the trees. After the paper has been wrapped around the tree and tied, a little earth should be placed around the lower end to keep the mice from beginning to work there or the paper may not prove effective.

The Experimental Farm at Ottawa reports that in trying out this system in connection with several thousand young trees, there have been practically no instances where the mice have gnawed through the paper to get at the trees.

Another method which has been used in many sections and which is sure and comparatively cheap, is the metal protection made of wire, tin or galvanized iron. These are durable and may be used from year to year.

Sunscald in some localities is a trouble to be guarded against. It is confined principally to northern districts, however, and is an injury caused by the alternate freezing and thawing of parts exposed to the hot sun in the early spring. The bark on the south west sides becomes unhealthy and finally dies and dries up. Young trees are mostly affected but it frequently occurs on limbs of older trees.

In districts where this difficulty is likely to occur some measures of protection should be adopted for otherwise serious injury is likely to occur even if the trees is not permanently destroyed. Any process that will keep the sun off until the danger of heavy frosts is past will be effectual. Building paper, old bags, newspapers or other material of like nature may be used. No doubt many trees are injured in this way and the cause not suspected by the owners.

In some parts of the country it is the custom to put a ring of manure around fruit trees and in close proximity to them. This plan should not be encouraged. In the first place the manure does very little good, if any, as a fertilizer when placed so near the tree as there are very few fibrous or feeding roots located in that position. The main roots run out beyond the spread of the limbs and on these are many laterals which carry the rootlets or the food collecting fibers. Of course fruit trees cannot be expected to bear heavy crops year after year without fertilizer or barnyard manure; but it should be spread all over the surface of the ground in the vicinity of the fibrous roots and not near the trunk of the tree where there are very few if any.

Again, when the manure is placed in a pile around or near the body of the tree it will afford a protection for mice—a thing that should be avoided as far as possible. In connection with young trees the object in their treatment should be to encourage a large development of their root system, hence the manure or plant food should be kept somewhat beyond their present location so that they will push out farther and farther for their supply. If this is not done and the tree finds an ample supply for all its needs of growth wear, no large developments of roots will take place and sooner or later the area already occupied will not furnish the required plant food; the growth and fruitage will be checked while the roots are forcing their way on out into new territory.

Neither is fall plowing in the apple orchard conductive to the well-being of the trees, as it is apt to interfere with the crop the next season. The soil is loosened up and the roots more or less exposed to the cold air of the winter. The new growth is forced beyond its natural order and does not properly harden in order to stand the severity of the winter.

WE can live without food, but not without sleep. Many will recall Dr. Tanner's 40 days without food, but who could live a single week without sleep and retain their reason.

It is during sleep that the nervous system is restored, and the nerve force, consumed by the activities of the day, is replaced.

Sleeplessness is one of the first and one of the most torturing symptoms of nervous exhaustion.

With sleeplessness you find nervous headaches, tired, wornout feelings, indigestion, lack of energy and strength. You are nervous and irritable, and cannot compose yourself to rest or sleep.

The nerve force in the body is at low ebb, and the feeble, wasted nerve cells must be nourished back to health and strength by such treatment as Dr. Chase's Nerve Food.

You must not confuse this food cure with drugs taken to produce sleep, for it works in an entirely different way. It is not a quick relief, but a restorative, upbuilding treatment. As the nerves are revitalized sleep comes naturally with its soothing influence and hastens recovery.

Sleeplessness

Mrs. Edson Brock, Trenholmville, Que., writes:—"I want to state that I have never taken anything to do me so much good as Dr. Chase's Nerve Food, and I am never without it in the house. I was so nervous I could not sleep, but now I sleep soundly at nights and wake up feeling refreshed and ready for the day's work. I used the Nerve Food for months, and found that it just suits my needs, and has built up the system wonderfully. I know it is Dr. Chase's Nerve Food that has brought about the great change in my condition, and I am thankful for it."

Dr. Chase's Nerve Food, 50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

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DAIRYING.

ANOTHER JEAN ARMOUR HEARD FROM. WORLD'S CHAMPION AYRSHIRE THREE-YEAR-OLD

The champion Ayrshire records are still coming to the front and breaking all previous records for the Ayrshire breed.

"Jean Armour 3rd"—32219—, a senior three-year-old bred by Mrs. F. D. Erhardt, West Berlin, Vt., and owned by W. P. Schanck, Avon, N. Y., has just completed her year's official test in the United States with a record of 21,938 lbs. milk, 859.65 lbs. fat 3.92% fat.

She was sired by the famous Howie's Dairy King, 9855, imported, and is from Jean Armour—15591—"25487", (the first Ayrshire to reach the 20,000 lb. mark for a year's milk record), bred by H. & J. McKee, Norwich, Ont.

Another daughter "Lotus Jean Armour", by Lessnessoch Gem's Good Gift, (Imp), commenced her three-year-old record on June 16th last, and gave in July 1606 lbs. milk, and in August 1653 lbs. with a test of about 3.64% fat.

Truly the JEAN ARMOURS are a wonderful family.

W. F. Stephen, Secretary,
Canadian Ayrshire Breeders' Assoc.

MILK YOUR COWS PERFECTLY DRY; WHY IT PAYS

It is important to milk cows completely. Milk left in the udder at one milking period remains there until the next. Complete milking will result in getting from a half pint to a pint more milk at each milking during the lactation period. The more a cow is made to produce the more capable she is of keeping up the performance. Strength physically is gained by exercise and using strength. An athlete who uses his strength properly becomes more proficient and capable of performing greater feats. It is much the same with the milk producing qualities of a dairy cow. When she is milked completely each time, her capacity to produce the maximum quantity of milk is maintained and she will "get the habit" of transforming her food into milk and butterfat instead of so much into body fat and growth. Incomplete milking is just as detrimental to the possible performance of a cow as careless systems of exercise are to an athlete who is training for physical strength and endurance.

We know that when we want to dry off a cow even in the flush that we simply have to leave part of the milk in the udder at each milking, skip once in awhile, and in a short time the desired result is accomplished. The production of milk is decreased and kept down just the same when the cow is not milked completely. Not only does the owner lose the milk by incomplete milking, but the cow may soon have a swollen udder which may result in the loss of a quarter or ruin the whole cow as far as milking is concerned. And beside, if a cow testing 4 per cent. butterfat be milked and the first fourth of the milk be tested it will probably only test about 2 per cent. and it may even be a little lower. The second fourth will test between 3 and 4 per cent. and keep on increasing and the very last milk, or strippings, sometimes tests as high as 12 and even 15 per cent.

Sufficient time ought to be taken to milk the cows completely, even if so much other work on the farm cannot be accomplished. A little extra time required to work and manipulate the udder by hand after the usual amount of milk has been obtained will pay dividends and often makes a profit where otherwise there would have been a loss.

It is important, too, that cows be milked at regular periods. The milking ought to be done at as near the same hour morning and evening as possible. The more equally the 24 hours are divided in which the milking is done twice the more uniform will be the quality of the milking produced. For example, if milking takes place at 6 o'clock in the morning, the next milking time should be as near 6 o'clock in the afternoon as possible. If milking is delayed the cows frequently become uneasy and the irregularity may cause considerable pain. Cows left long without milking get very distended udders and may suffer much pain. Very heavy milkers sometimes have to be milked three times instead of twice a day to relieve the pressure on the udder.

The operation of milking is one of the most critical on the farm and much of the success of a dairy depends on doing it in a proper manner.

DON'T NEGLECT DAIRY COW AT CALVING TIME

There is no time in the whole milking period that has such an important bearing on the establishment of a standard for production for the year as the period previous to and following calving time. It is understood by many, but not by all, that if a cow is allowed from six weeks to two months in which to rest from one lactation period to the next, she will yield more than when milked continuously up to the time of parturition. We know the effect upon ourselves, when our faculties are continuously at work, especially when the nerves are brought into play. And it is a fact that parturition vitally disturbs the nervous and physical activities, especially the forces of digestion. The act of calving brings stimulation to the milk producing organs, which is the only natural and effective means of stimulating milk secretion, and it is a serious mistake not to make the most of it. It is necessary to handle the cow in such a manner as to derive full benefit from this stimulation while it is yet present, since with most cows it rapidly wears off if not utilized.

At this time of year with many cows freshening in the fall, this question concerns many. Rather liberal feeding, which actually builds mild nutrients in the body, during the last few weeks of the lactation period, and while the cow is dry, is the secret of preparing the cow for the succeeding lactation period. This may appear to be wasting feed, but this is the important period when it is most valuable. During the last few weeks of the milking period grain may be fed at the rate of one pound to each two pounds of milk produced, reducing at the period when the cow is to be dried. A good many have trouble in drying off persistent milkers by the plan of skipping milkings, but when less than 14 pounds of milk is yielded, daily milking can be discontinued at any time without serious difficulty if accompanied by a reduction in the feed. The udder will become filled, but the fluid contents will soon be absorbed. When dry, about eight pounds of grain should be fed daily, more if the cow is in poor condition. It would not be profitable to feed inferior cows this way. These, however, cannot always be detected from the others unless all have an equal chance, and weeding is practiced, based upon the record of production. The grain ration should be bulky, laxative and nutritious, having slightly more carbohydrates than a milk ration, with a nutritive ratio of about one of protein to seven of more liberal feeding of grain will be carbohydrate and fat equivalent. If a high percentage of fat is sought even useful.

During this period protein and fatty tissues are actually being stored upon the body to be used in the production of milk before the cow is in shape to digest and assimilate a full ration. A cow is like a toboggan in that the higher she starts at the beginning of her slide, the faster and longer will she keep running. It is just as serious to crowd the appetite during the first month after calving as to neglect to lay on this supply of nutrients. The cow should be kept hungry. If fed all she would eat harm will be done, and a check to her flow is the natural result of going "off feed," as most cows reach their limit early by this sort of handling.

A week before calving reduce the grain to four or five pounds, feeding mostly bran and oats. On the day of calving a pound and a half of epsom salts, luke warm water and good hay are enough for a well-conditioned cow, although two quarts of bran mash may be useful. Begin the next day feeding lightly, and after four or five days introduce a grain mixture gradually. Increase this gradually about one-fourth pound per day. Do not expect a cow to handle all the feed called for by her yield of milk. If she has been properly conditioned and is coming to a good flow from one month to six weeks is early enough to get her on full feed. For from three to six months she should gradually lose the flesh stored up.—F. C. White, Conn. Agricultural College.

HOW TO AVOID UDDER TROUBLE IN "DRYING OFF" COWS

Perhaps in no time of her lactation period is the dairy cow in greater danger of "going wrong" in her udder than during the time of "drying off."

The function of this useful animal is to make milk and a knowledge of the physiology of her udder is most important, inasmuch as it will help to avoid many of the ills which are so common in the dairyman's herd.

To understand how milk is made it is necessary to follow the course of

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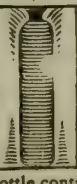

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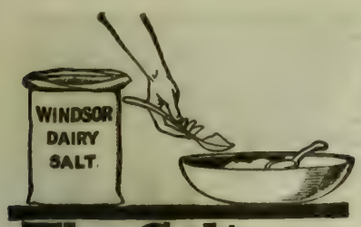

The Salt is mighty important

Windsor Dairy Salt

Made in Canada

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food from the time it enters the cow's mouth until the milk is produced. From there is passes directly to the stomach through the gullet. After becoming softened by secretions there, it returns to the mouth and is re-masticated, after which it passes to the two other stomachs and reaches the fourth, where it undergoes a mixing process and then passes into the small intestines. During its progress it has been acted upon by the saliva of the mouth and the gastric juice, the liver bile, etc., and broken up in such a way that it is now ready for the nitrogeneous material, carbohydrates, salts, etc., to be received by the blood and carried to the various parts of the body for further use.

The food now being in a condition to be utilized by the animal economically, it passes into the blood and finally reaches the udder, after having passed through the liver, heart, lungs, arteries, etc., and having undergone the various purifying influences of these vital organs.

In the dairy cow, the udder is a very important organ as it is the direct means of making milk, which is the dairy cow's function.

In the construction of the cow's udder the opening at the upper end of the teat enlarges into a reservoir where the milk accumulates between the times of milking. The milk is prevented from passing out of this cistern through the teat by a small muscle, which holds it until manipulation begins at time of milking. From this cistern a canal extends farther into the udder. This branches many times and at the end of each branch there is a cluster, or lobe of tissue, very similar to a bunch of grapes. What is known as the lobe is similar to the bunch, the lobule resembling one grape and what is known as the alveoli the seeds. The alveoli are lined with small cells, in which the milk is made. These cells produce within themselves the fat peculiar to milk and also secrete the water, salts, etc., that enter into the composition of milk. The milk being secreted in these millions of small cells, which compose the udder, passes into the branches that lead to them and from these into the main branch and finally reaches the milk reservoir where it is held until milking begins. The four quarters are each constructed in the same way and act somewhat independently of each other.

From the construction of this organ, the enormous number of cells and their connection with the many avenues through which the material for milk production passes in its course before the finished product is accomplished, it will readily be seen that any injury, congestion or other unnatural condition will readily cause trouble in this delicate and complicated organism.

In the "drying off" process with many cows there is very little danger of trouble on account of their all too ready disposition in that direction; but with others, particularly those which are naturally persistent milkers, there is great danger of complications arising that will cause inflammation and ultimate hardening and destruction of cell composition.

In order to avoid any discolor of this kind an animal with a strong inclination to "hang on," should be put on a ration calculated to reduce the milk now and milked once a day for a few days. As soon as she drops in quantity, another milking period may be omitted; and still another as the flow diminishes until two or three days elapse between milkings or until the cow is finally dry.

In the process, however, great care should be exercised that no thickened milk be allowed to accumulate. If any should form during the process the cow should be stripped out quite frequently until this tendency entirely disappears. If this is not done inflammation will set in and when, next the animal freshens there will likely be trouble and a lost quarter will be the result.

No good cow should be pronounced dry and be allowed to go week after week without examination. On the contrary, she should be looked after occasionally all through her dry period as it sometimes happens that a cow will secrete enough fluid to cause trouble weeks after regular milking has been discontinued.

And again, some cows are so strongly inclined to the milking habit that it is almost if not quite impossible to get them to go entirely dry, without resorting to undesirable methods, such as drugging, etc. With this kind the best plan is to feed nourishing food to keep up the strength and develop the growing calf and continue the milking.

It occasionally happens that a cow will hold on very persistently until a short time before parturition and then suddenly show signs of a disposition to let go, in which case it is a good plan to humor her peculiarity.

In stripping cows out for drying off it is better to milk out clean occasionally, rather than taking part out oftener, and leave a portion which is liable to thicken and destroy the cell tissues.

However, by proper care and management few animals will be found that cannot be safely dried off without danger of serious complications.—O. V. J.

HAD WEAK HEART

COULD NOT WORK

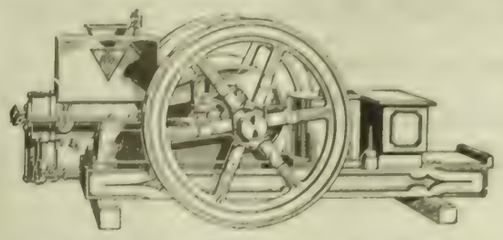
COULD NOT SLEEP.

Many women are kept in a state of fear of death, become weak, worn and miserable and are unable to attend to their household, social or business duties, on account of the unnatural action of the heart.

To all such sufferers Milburn's Heart and Nerve Pills give prompt and permanent relief.

Mrs. J. Day, 234 John Street South, Hamilton, Ont., writes: "I was so run down with a weak heart I could not even sweep the floor, nor could I sleep at night. I was so awfully sick sometimes I had to stay in bed all day as I was so weak. I used three and a half boxes of Milburn's Heart and Nerve Pills and I am a cured woman to-day, and as strong as anyone could be. I am doing my own housework, even my own washing. I doctored for over two years but got no help until I used your pills.'

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.



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It is not a question of how soon you can afford to buy an engine, but how long can you afford to do without one. You surely realize that during your life time you have in one way and another lost the price of several engines, by trying to get along without an engine. Good sense demands that you stop the loss at once.

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gives zest to the ration, aids digestion and enables the cow to get every last bit of nourishment out of the feed. Keeps well cows well—makes sick cows better. GUARANTEED to increase the flow of milk, and preserve perfect health. Contains no filler, middlings or other cereals, but is all medicine. Does not impart a druggy or foreign taste to milk or butter.

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LIVE STOCK.

CASTRATING CALVES

We castrate about 50 whiteface bull calves every fall, but at times the result is not very satisfactory. Nearly always some of them swell very badly and get stiff all over, and one fall we lost 4. Is it best to pull the cord or cut it?

Little difficulty or loss need be experienced in altering bull calves, if reasonable care is given and the operation is performed at the proper time. The best age to do this is when the calf is between 2 weeks and 2 months of age, preferably about 1 month old. Circumstances may arise which necessitate castration at earlier or later ages. To make it a custom to castrate grown calves in the fall, especially if weaning is considered, is grossly wrong. The best time to attend to this work is in the spring and early summer, when there is succulent grass, which materially assists in keeping up the general health to overcome the shock to the system which this operation causes.

Many rangemen of the west on picking up grown calves in the fall roundup frequently refuse to castrate them after the grass has dried up and the weather has become frosty, preferring to carry them over entire until they get on green grass in the spring. After the grass has dried up and the weather is cold the blood has a tendency to become congealed. All of these conditions cause swelling, as well as internal inflammation which it may take all winter to overcome. I have known of August having been set as the final month for castration under range conditions; any calf dropped later than this can very well be carried over until spring.

The method of performing this operation is a simple one, and with range cattle it is usually done when the calf is branded. The lower end of the purse is cut off and the testicles are split lengthwise one at a time. It will be found that the membraneous covering is attached to the upper end. After being cut loose with a knife this should be gently stripped back a few inches along the cord, after which the cord should be severed. In no circumstances should the cord be pulled out. Some prefer searing it through with a hot iron.

It would seem wise to adopt a different policy than that of having 50 bull calves which need castrating at this time of the year.—Joseph E. Painter, Denver Co., Colo.

HOW MUCH WOOL DID YOUR SHEEP CLIP?

It is many a year since it made so much difference as to just how much wool one can get from a sheep's back as right now. The war, together with certain other conditions in the world's wool market, have sent wool prices skyrocketing, and so an added interest attaches to reliable data regarding wool production.

How much wool, in pounds and ounces, will a good farm sheep produce in a year?

The Manitoba Agricultural College has a flock composed of three breeds, Oxfords, Shropshires and Leicesters, all well known and popular farm breeds in our western provinces. There are 49 sheep in flock, almost all of them pure bred, although that does not necessarily affect the weight of fleece, for a good grade flock might be made to yield as much wool, though perhaps not so uniform in quality or in weight per sheep. The shearing this year, owing to the coolness of the weather during late May and early June, was delayed until about two weeks later than usual, being done on June 8th, 9th and 10th.

The total weight of wool from 49 sheep was 479 lbs., or an average of 9.77.

IMITATING BOSSIE AND FOOLING THE CALF

Requests are frequently received for information regarding milk substitutes for calves, and how to use them. The following calf meal mixture is one which is recommended by the Massachusetts Agricultural College: 22 pounds ground rolled oats; 10 pounds linseed meal; 5 pounds flour middlings; 11 pounds fine corn meal, 1½ pounds fine blood meal; ½ pound salt. Total cost, 3 cents a pound.

Many of the proprietary calf meals are very good, but are a little more expensive than this home-made meal. The manufactured meals are usually accompanied by directions for feeding.

These meals are usually prepared by adding one-half pound of meal to 2 quarts of boiling water for each feed. At each feeding moisten the meal first with a little cold water to prevent it forming lumps, and then pour on the boiling water, and stir well. When this is cooled down to the temperature of milk fresh drawn from the cow, it is ready to feed.

It is better to let the calf have whole milk for two or three days, or a week, then gradually introduce a little of the milk substitute until within about 10 days or two weeks, when you can cut out the milk entirely. As soon as the calf will eat let it have hay and a little of the meal dry, together with fresh water. Always have the calf meal mixture milk warm when fed. Have the buckets clean and do not overfeed. A young calf will usually begin to eat hay at about three weeks old.—Chas. I. Bray.

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ATTENTION AYRSHIRE BREEDERS.

Editor Maritime Farmer,

Dear Sir:—

I regret that in the report of the Dairy Test at the Maritime Winter Fair of 1915, which appeared in the Ayrshire Annual of 1916, an error exists. The report as printed, was taken from the "MARITIME FARMER", and I was not aware that any changes had been made until after the Annual had been issued. However, a corrected report will be published in the next volume of the Herd Book (Vol. 26).

Trusting this explanation will be satisfactory to all concerned, I am,

Yours sincerely,

W. F. SAPLIN,
Secretary-Treasurer,
Canadian Ayrshire Breeders
Huntingdon, Que., Association.
Nov. 6th, 1916.

In reference to the foregoing, the records of the individual cows in the Test were correct as published in the columns of the Maritime Farmer. While the Test was in progress it was alleged that one or two of the cows were not the bona fide property of their exhibitors, consequently these cows were ruled out, and cows lower down the scale moved up to take their places, as the allegations were not disproved to the satisfaction of the Directors of the Fair. The figures appearing in the Maritime Farmer were absolutely correct, the above changes being made after publication of awards.

At the time the records of the Winter Fair dairy tests were published in the Maritime Farmer, the Directors had not fully decided on eliminating the above mentioned cows from the list, as they were given to understand satisfactory arrangements would be made.

Owing to the fact that the alleged irregularity in the dairy test was not satisfactorily disproved, the exhibitors of the cows referred to, were also deprived of prizes won by their young stock in the breeders class, and stock placed lower down the scale by the judges were moved up a peg in sections where they had taken a lower place to stock exhibited by the breeders in question.

It is regrettable that any breeder should so forget himself as to make irregular entries at a fair. The Management of the Winter Fair will not countenance irregularities and he who attempts the same, may look for no more lenient treatment than was accorded the irregular exhibitor at the last Winter Fair—not only the forfeiture of prizes won on stock irregularly entered, but also the forfeiture of all prizes won, even in cases where the entries were open and above board.

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WARM SLOP FOR PIGS

All winter long the pure-bred Poland-China hogs on the H. J. Blackburn farm in Ill., get warm slop and it takes only 10 minutes to slop 100 head. In the center of his university plan farrowing house, there is a 60-gallon farm boiler. Next to it there is a mixing vat. An hour or so before feeding time in the evening a fire is built in the boiler and the warm water is turned into the vat. There is a feed bin over that vat and the feed is let down into the vat and mixed with the water. A 4-inch pipe runs from the vat to two 30-foot concrete hog troughs. This 4-inch pine carries enough slop so that the trough is all filled at once and all of the hogs get their share.

The fire in the boiler keeps the hog house warm, and the water is warm enough for slop in the morning. Many hog men have visited Mr. Blackburn and copied this method of slopping the hogs.

INFLUENCE OF AGE ON CATTLE AND HORSE VALUES

J. C. McDowell, of the U. S. Federal Department of Agriculture, who has been investigating the influence of age on the value of cows and horses, finds that for all breeds, and for all classes of all breeds, the price of cows in good health is greatest between five and seven years, with the highest price usually at six years old. They are valued about the same at four as at eight. The explanation for this may be that though the younger animals have before them a longer period of usefulness, the older ones have already demonstrated their worth.

In all the tables compiled from the investigations the 14-year-old values for pure bred cows are much greater than for grades. This may be partly due to higher average milk production, but it is undoubtedly more largely due to the possibility that these cows may yet produce valuable calves.

Cows worth $80 at three years old are given a birth value of about $10, while those worth $100 at that age are given a birth value of about $12. Similarly the difference in value between the two classes of pure bred cows at three years of age is $100, while the difference in value at birth is in no case above $30, leaving a margin of at least $70 to cover interest on larger investment, risk of a greater possible loss, and any extra expense for feed or care.

The farm work horse according to McDowell's investigation, reaches its highest point between six and seven years of age. If still in health the value at sixteen years is 40 per cent. of the highest value. At birth the value is also 16 per cent. of the maximum value, and there is little change on the average between the ages of five and nine years. As compared with the values given for pure bred dairy cows of about the same maximum value, the berth value of horses is considered the birth value of horses is considerably less, the age of maturity a little later, and the old-age value somewhat higher.

Owing to the scarcity of standard rennet extract, there is a tendency on the part of many persons to exploit various substitutes. Some of these substitutes are not what they are represented to be and cheesemakers should be careful not to use anything which has not been thoroughly tried and recommended by some disinterested authority. Several cases have been reported of serious loss which has resulted from using coagulants of which the strength and character were not fully known.

In wintering live stock, there should be maintained the steady growth that stock makes when on summer grass. In the second place, mature animals should maintain their weight and return a profit in butter fat.

Use Rubber To Save Leather —It Is Needed In The War!

Rubber Supply Is Ample— Leather Is Scarce and Very High

Leather is being worn out faster today than ever before in the history of the world, while production is considerably less than a few years ago. While the consequent shortage is keenly felt by the civilian who has to pay half as much again for his own and his family's shoes, it is even more serious for the Government, which must supply hundreds of thousands of soldiers.

Rubber, too, is being used in enormous quantities on account of the war—one British manufacturer, for instance, is working on a rubber boot order for the army which will take 14,000,000 pounds of rubber, fabric and chemicals. But the supply, thanks to the great rubber plantations in Britain's tropical Dominions, is easily keeping up with the demands, and raw rubber, despite a war tax of 7½%, is actually cheaper today than before the war. So, though the fabric and chemicals used cost nearly double, rubber footwear has not gone up very much in price.

These conditions naturally are leading thoughtful, thrifty, patriotic Canadians to save leather just as much as possible by wearing rubbers, overshoes, high rubber boots and heavy farm rubbers. In addition to the very substantial saving in cost, rubber footwear has decided advantages for wet or cold weather around the farm or in the woods. The men like its warm, dry comfort under all conditions, and the women like the way it sheds the dirt instead of bringing it in to melt and track around the house. For the children, too, particularly if they are walking a long way to school, rubbers and overshoes mean a great deal in warmth, comfort and protection against colds.

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THE HORSE

HEREDITARY UNSOUNDNESSES IN HORSES

Profit in horseraising depends primarily upon type and sunodness. Considerable attention has been given the profitable type of horse, but the problem or eradicating hereditary or transmissible unsoundness has been overlooked or neglected by the average horseraiser. Unsoundnesses are designated as hereditary when they are due primarily to an inherited weakness of the part involved. This weakness may be in the form of one or all the following conditions: Defective conformation, poor quality of tissue, or insufficient quantity of tissue of the part involved. These weaknesses are physical characteristics and as such are transmitted to the offspring. When such offspring reach maturity and are required to do the ordinary work that a horse free from these weaknesses should do without any disturbance of function or structure of a part, then the evidences of these weaknesses begin to appear; some as loss of function, others in the form of inflammation or enlargements. Hence it is not so much the inheritance of the disease or unsoundness itself that is to be feared, but rather the predisposition due to an inherited poor conformation or poor quality of tissue. A successful breeder offers the following suggestion: "If farmers and breeders would not patronize crooked-legged stallions and crooked-legged mares in time these defects would be overcome and eradicated, and I know from actual experience that crooked-legged horses will produce crooked-legged horses and crooked legs develop curbs."

This practical interpretation of the question indicates that sidebones occur frequently because poor feet, both as to quality and conformation, are prevalent. Furthermore the frequency of the occurence of "tied in," poorly-shaped, meaty and soft hocks explains why bone spavins and boggy hocks are common. This suggests two groups of causes: external and internal. The external or immediate cause usually is the wear and tear of work-a-day life, but the internal or primary cause is the inherited weakness, which may have been passed down for several generations.

In seeking for size, quality, speed and other desirable qualities, several weaknesses have been allowed to creep in, and by overlooking them for generations these weaknesses have been intensified; hence it is absolutely necessary to discriminate severely against the unsound sire, even though he be a very good individual in every other respect. It is often questioned whether hereditary unsoundnesses materially lessen the market value of a horse. However, each of the unsoundnesses generally accepted as hereditary depreciate the market value of a horse from 25 to 75 percent, depending on the stage of development of that particular unsoundness at the time of sale. Unsound horses showing no lameness and ordinarily passed as sound by the average man are subjected to approximately the following cuts, as estimated by a member of Chicago horse market operators:

Sidebone, $25; ringbone, $50; small bone spavin, $20; small curb, $15; large curb, $30; thoroughpin, $10 to $25; bog spavin, $5 to $30; cock ankle, $50 to $75.

When a horse reaches the market his value is based upon the service he can render, and this value is measured in dollars and cents, not sentiment. Farmers—the men who usually own from 1 mare to 8 mares—are the men who produce practically 90 percnt of all the horses in this country. These men watch carefully the cattle market, the hog market, and other farm products markets, but few keep a close watch on horse market conditions. Few farmer-horsemen are familiar with the various guarantees that go with horses sold on the market, and fewer still realize the fact that these various guarantees are based largely on the question of soundness. Furthermore, 75 to 90 percent of the unsound horses which find their way to the market are hereditary unsound. It behooves every horse-owner to keep in closer touch with the horse markets and the general situation of the horse business if he hopes to secure the greatest profits.

Every horseraiser should visit one of the larger horse markets at least once each year. By so doing he will get a broader understanding of the horse business; he will realize more fully that there is a demand for certain classes of horses, while for others there is no particular demand, and he will learn more fully to appreciate the value of soundness. Recently on the Kansas City market a big, smooth gelding guaranteed to be "serviceably sound" sold in less than one minute for $310. A few minutes later another big, young gelding, at first sight apparently just as good in every respect as the one just mentioned, but offered under the guarantee "wind and work," sold for $127.50. The second gelding sold cheaply because he had a bone spavin or jack on one hind leg. This bony enlargement, which is often overlooked or excused as only a "bump", made this big, smooth young gelding sell for less than half what he would have brought had he been sound. Furthermore, soundness is as necessary in light horses as in heavy horses. A smooth, toppy four-year-old road mare with a ringbone sold for $40, while a five-year-old, just as smooth and toppy with a bone spavin, sold for $47.50. The pair brought $87.50 simply because they were unsound, while a brown gelding, not so attractive as either of the mares mentioned, but sound, sold a few minutes later for $140.

Hereditary or transmissible unsoundness are big factors in lessening the profits of horse breeders. Hundreds of thousands of dollars are lost each year simply through a lack of attention to and neglect of this problem. If the mare-owner will appreciate the value of soundness in the brood mare and will persistently and resolutely refuse to use the hereditary unsound mare as well as the hereditary unsound stallion for breeding purposes wonderful results may be obtained in a short time in eradicating unsoundness.

The following unsoundnesses are classed as hereditary: Sidebone, bone spavin, ringbone, bog spavin, thoroughpin, curb or crooked hocks, roaring (laryngeal hemiplegia), cataract, amaurosis, periodic ophthalmia, string halt, heaves (pulmonary emphysema), ridgling (cryptorchidism), rheumatism) and melanotic tumors.

If the horse producer will but give the care, attention and intelligent study demanded there is no class of live stock that will return such certain profits as horses of the right kind. The first requisite of the right kind of horse is soundness. Such horses can be produced only from sires and dams free from hereditary unsoundness or an inherited predisposition to them. The successful breeder divests himself of all sentiment, and appreciates all defects which predispose to unsoundness in both sire and dam.

C. W. McCampbell.

Kansas Agricultural College, in Breeders' Gazette.

WINTERING IDLE HORSES CHEAPLY

Below are given some results obtained at the Experimental Station, Cap Rouge, Que., in the cheap wintering of idle horses. The methods followed and the feeds used were such as to make the plan applicable to, and worth a trial in, practically all parts of the Dominion.

More horses are required.—Help is scarce, high-priced, and oftentimes unreliable, so that larger implements and more working stock have to be employed. It is not always possible to buy a good team at a reasonable price in the spring, while it is often hard to get a decent figure for the same animal in the autumn. It would thus seem advisable, when the ground freezes, to lay aside, as it were, for the winter, all horses which are not absolutely required and to feed them as cheaply as possible without impairing their future usefulness.

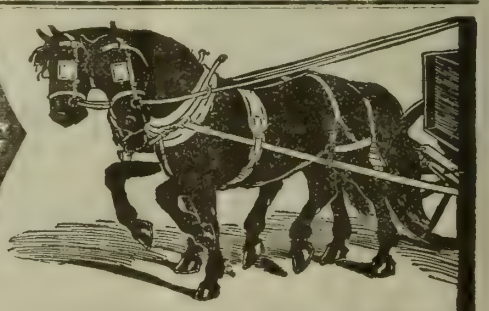
A cheap winter ration.—To gather data upon this subject, an experiment was started at the Cap Rouge Station in 1911 and has been continued during five consecutive winters, with mares and geldings, some nervous, others quiet, aged five to eighteen years. It has been found that they fared well on a daily ration of one pound mixed hay, one pound oat straw, and one pound carrots or swedes for each one hundred pounds of their weight. Not only did they gain an average of twenty-nine pounds during the five months of the test, but they showed, the following season, that they had lost no vitality nor energy.

Changes must be gradual.—The rule generally followed was to gradually cut down the work, also the feed, from November 1 until November 15, when the animals under test were placed in box stalls. They never went out, during the winter, with the exception of an occasional drive of a mile or so. On April 15, easy jobs were given to them and a small quantity of concentrates was allowed until by May 1 they could be under harness ten hours a day and were on full feed. These are important points not to be forgotten; to lower and raise the ration little by little, and to leave the horses practically idle.

Details essential to succes.—If horses, due to a hard season's work, are in low condition, they should be fed up to their normal weight before being left aside for the winter, and enough exercise should be allowed during that period to prevent stocking. Another good thing is to give a purgative so as to clean out the system before the long rest. One should also remember that some animals are more restless than others and dissipate more energy, which means that more food will be required, so that the above mentioned quantities should be increased or decreased slightly, according to circumstances.

Notes on different roughages.—Mixed hay, for this purpose, can be of any grass or weed which horses will eat, must not be mouldy or musty, and should not be worth more than half of timothy. Roots may be carrots, mangels or swedes, though the first are always liked, and the two latter are sometimes refused at first, which requires skill on the part of the feeder to have enough eaten; if roots are not given, bran should form part of the ration, as animals at rest will soon get costive and will not thrive very well on dry roughages alone. Oat straw

(Continued on page 132)



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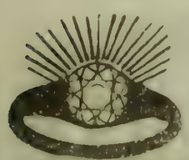

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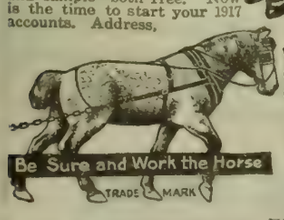

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POULTRY.

DWARF EGGS

Almost everyone who has kept fowls has found hens' eggs as small as, or smaller than, a pigeon's egg. Such an egg may be found at any time of year, but they are most common during the late spring and early summer. These small eggs may be soft or hard shelled, but not always, of a thicker consistency than the white of a normal egg. Some of them contain a small yolk without a germ spot, but many more contain only a few drops or a coagulated lump of yolk. A few have no yolk whatever.

A century or two ago, there were a great many superstitions associated with these eggs. The name derived from the superstition once commonly accepted in a particular region often remains in use as the local name for these eggs. Thus in different places they are called "cock eggs," "witch eggs," "luck eggs," "wind eggs," etc. The most widely accepted and longest persistent of these superstitions is the one that such eggs are laid by cock birds. With the passing of the age of superstition the more descriptive term, "dwarf eggs," has come into use.

It is still commonly believed that a dwarf egg marks the end of a litter. Since dwarf eggs are most common during the season of year when the birds are most apt to be broody, it is easy to understand how the two things may seem to be related. The use of the trapnest and individual egg records, however, dispels the illusion. A dwarf egg is no more likely to be the last than the first or any other egg in a litter.

When dwarf eggs were supposed to represent the ends of litters, they were explained either as the residue left in the egg tube after the series had ended, or as the secretion of the egg tube which remained active after the ovary had ceased to function. In face of the fact that the dwarf egg does not represent the end of a series, these explanations must be abandoned. What, then, is the cause for the production of a dwarf egg?

Eight years' investigation of dwarf egg production at the Maine Agricultural Experiment Station poultry plant has thrown considerable light on this question. First, it has shown that in all cases where a dwarf egg was produced, there was evidence from the egg record of the bird, checked in several cases by immediate post mortem examination, that the ovary was in active condition and was maturing and discharging yolks. Second, in 95 per cent of the cases the disturbance was of a temporary character, since the dwarf egg was one of a series of eggs, and was preceded and followed by normal eggs exactly as though it were itself a normal egg. Post mortem examinations of many of these cases showed normal sex organs. Third, two-thirds of all the dwarf eggs contained some yolk. In many cases, post mortem examination showed that the rest of the yolk was free in the body cavity. In one case, a dwarf egg containing some yolk was found in the shell gland. Attached to the ovary was a follicle containing a partly ruptured yolk membrane from which yolk was draining into the body cavity.

From the above facts, it is clear that at least two-thirds of all the dwarf eggs result from the stimulation of a normal active egg tube by a small yolk, or more often by a part of a normal yolk, the rest of which escapes into the body cavity. In all cases the active egg tube is associated with a fully functional ovary.

During several post mortem examinations free yolk was found in the body cavity of birds which had just laid, or

(Continued on page 132)

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Gombault's Caustic Balsam
The Great French Remedy Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."—Ed. Rosenburg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

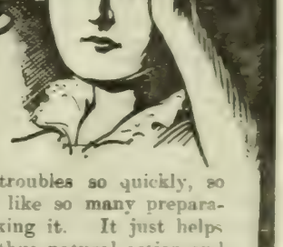
Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, $1.50 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

THE LAWRENCE WILLIAMS CO., Cleveland, Ohio

Instant Relief for
Sick Headache



Nausea and Heartburn

You cannot have sick headache when your liver is right. Dr. Cassell's Instant Relief sets it right, and that is why it cures sick headache and other bilious troubles so quickly, so surely, so thoroughly. It is not violent, like so many preparations, and you don't need to keep on taking it. It just helps your liver to regain its power, and thus natural action and natural cure follow at once.

"Science Siftings," a prominent English scientific journal, says (April 11, 1916):—"Providence has given us the brains to devise means to compensate Nature for our ill-treatment of her. . . . The means at hand come from natural sources, and we have them embodied in such splendid combinations as Dr. Cassell's Instant Relief."

Take Dr. Cassell's Instant Relief for constipation, biliousness, torpid liver, sick headache, dizziness, specks before the eyes, flatulence and windy spasms, acidity, heartburn, impure blood, and that dull, heavy feeling which is a sure indication of liver troubles.

Price 50 cents. from all Druggists and Storekeepers,

Or direct from the sole agents for Canada, Harold F. Ritchie and Co., Ltd., 10, M'Caul-street, Toronto. War Tax 2 cents extra

Dr. Cassell's Instant Relief is the companion to Dr. Cassell's Tablets.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, England.

Dr. Cassell's Instant Relief
LIVER TONICS
ANTACIDS
CARMINATIVES
LAXATIVES

FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

HIS FIANCEE

By Esther Vanderveer.

"I may not see you again for years. Will you be true to me "

"Rather ask yourself whether you will be true to me. You are at an age when a man's fancy is liable to great changes."

"I shall not change in my feelings toward you."

"We shall see. Now, come and kiss baby; then you must be off."

Hugh Edgerton, twenty years old, had become enamored of a young widod, Mrs. Clara Pomeroy two years his senior, with a child, a girl in her third year. He had been offered a position in a banking house in Hongkong, China, and was about to proceed there. Full of the hope of youth, he was intent upon making a fortune and returning to spend what remained to him of life with Clara Pomeroy for his wife.

He followed her into an adjoining room where the child lay asleep in her crib. Bending down, he kissed her.

"Dear little thing!" he said. "When I return I will be a father to her."

He took the child's hand in his, and so soft, so dear was it that he could hardly bear to release it, but the mother admonished him that his time was limited, and drew him away.

"Goodby," she said; "whatever is in store for you and me in the future"—

"And baby."

"Yes, and baby. I will say this, you are a fine fellow and deserving of a good wife."

It seemed to Edgerton that the kiss she gave him lacked the fervor of a woman deeply in love. But it had always been so between them. The widow, though but a few years his senior, had a far wider range of experience than he, and a woman of twenty-two is usually much more mature than a man of twenty. When he regretted this lack of fervor she always said to him. "When ten or twenty years have passed it will be I who will have cause to reproach you for indifference."

While on his voyage to China Edgerton spent the most of his time writing letters to his fiancee. If an analysis of his feelings were possible it might show more distaste for leaving home and friends for a foreign land than love, but no one has yet been able to isolate love—as they say of germs—and, after all, our affections are largely a matter of association. Nevertheless Edgerton pined for his widow and the time when he would be united with her, and the dear child he had seen sleeping so peaceful and innocent in her crib was ever present in his mind.

Edgerton on arriving in Hongkong was given a position of some importance, for he had had several years' experience as a subordinate in business and was advanced rapidly. But unfortunately when he reached a status in which he might begin to accumulate the house he was with made some important losses and wound up their business. Edgerton joined forces with others and formed an independent house. They made money for a time, but one of the partners proved dishonest, and after getting him out of it they had a considerable deficiency to make up.

Meanwhile Edgerton wrote regularly to his fiancee and received letters from her. It was due to her encouragement that he was able to stand by what he had undertaken, for when ill luck befell him he was sorely tempted to give up and go home. He had with him a likeness of his fiancee, and, though the years were passing and each year added to her age, he continued to think of her as she had appeared when he parted from her. He always referred to her little girl as "the baby" and forgot that while her mother had passed the climas of youth and beauty the daughter was approaching it.

Years passed before Hugh Edgerton came to a status wherein he could close out his business in China and return to America with the fortune he had set out to win. Indeed, it was due to a fortunate rise in an article in which he had made an investment that at last enabled him to do so. It was a happy day that he announced to Mrs. Pomeroy that he was independent of the world and in a few weeks would return to claim her as his bride.

Sixteen years had passed since Edgerton had left his native land. He had been so engrossed in business that they did not seem to him more than six. Nevertheless he realized that there must be some change, especially in "baby". He pictured her as a girl playing with her doll, but nearing an age when she would lay it aside. Her mother doubtless would not have changed so much. True, she would be older, but not so very much older. As to Edgerton himself he was now thirty-six, an age wherein a man is supposed to be in his prime. His associations with women in China had been thus far with those who had not yet passed out of young ladyhood. Indeed the mothers of some of his women friends were but little older than he. One young women of nineteen, an English girl, was hoping to win him when she was disappointed by the announcement that he was about to return to America.

The return voyage seemed endless to Edgerton, so eager was he to meet his fiancee and the little girl to whom he was to be a father. He pictured himself taking his ease in his own house, surrounded by his family. The loneliness of a bachelor life in a foreign country was now to be a thing of the past.

Edgerton was the first passenger to step ashore at San Francisco, and within an hour after landing he was speeding eastward on a railway train. The day and hour of his arrival was known to Mrs. Pomeroy, and Edgerton expected that she would meet him at the station. His impatience to see her caused him to hope that she would, but his aversion to the public witnessing their meeting caused him to hope that she would not.

She did not appear. Calling a conveyance, he drove to her home. A maid opened the door for him, and so sure was he that his fiancee would do so that he came near throwing his arms around the maid. He was ushered into a drawing room somewhat dimly lighted, but there was no one there. In a few minutes, hearing a light step on the staircase, he approached the door and stood waiting. A woman entered the room, and he caught her in his arms.

She submitted to the embrace, but did not return it.

"You are as you were when we parted," he said in a disappointed tone. "You were then without warmth, and you are without it now. I wonder how you could have been true to me all these years."

Standing off from her, he was astonished to see one who looked not a day older than when he had left her.

"Upon my word," he exclaimed joyfully, "you have not changed in the least It is marvelous how you have retained your youth. I feel almost too old for you."

Now for the first time the lady ventured to speak, but she spoke not as a widow of mature ago; she was rather a coy young girl. She haltingly told him that he said what he did in order to flatter her, whereupon he vowed that he spoke the truth, and he embraced her again.

"And now," he said, releasing her, "where is baby? I must see her at once."

"You forget that baby is no longer baby; she is a schoolgirl."

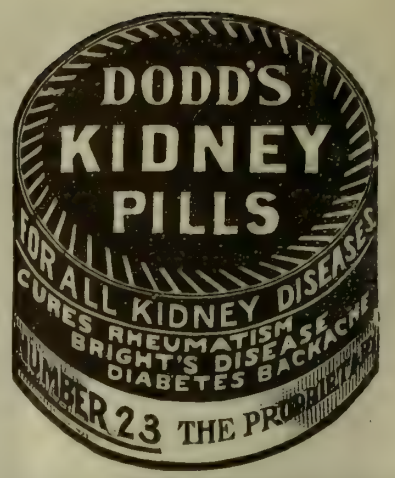
"Where is she?"

"Why, she is at school."

"At school Not here to welcome her papa? But she will return presently?"

"She is at a boarding school some distance from here." This was said falteringly as a falsehood would be spoken.

"Surely you are deceiving me. It cannot be that"—



"Clara is well; nothing has happened to her."

"Clara?"

"Of course. Have you forgotten that her name and mine are the same "

"Oh! I have always been accustomed to think of her as 'baby.' For my life I cannot understand how you can have preserved your youth. Are you sure that no rouge"—

"Not a particle."

"Surely by this time you should have a few faint lines around your eyes. I see no trace of age whatsoever. Your lips are as red as they were when I last kissed them."

And he kissed them again.

"Buy why," he continued, "do you welcome me in this dim light?"

"Perhaps when you see me in a brighter one you may see what age has done for me."

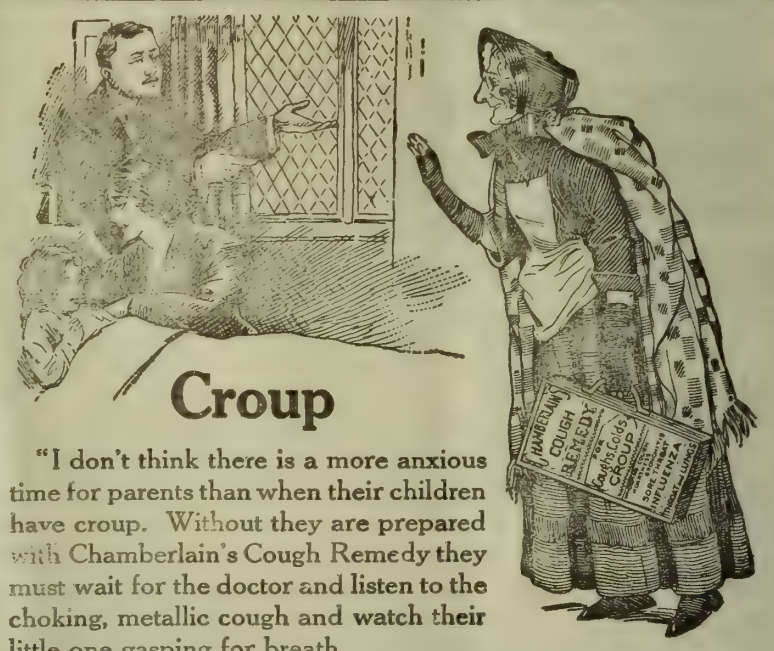
As she spoke lights were turned on from another part of the house, and a woman entered the drawing room whom Edgerton did not remember to have seen before.

"My mother," said Clara Pomeroy.

"Happy to meet you, madam," said

BETTER THAN SPANKING

Spanking does not cure children of bedwetting. There is a constitutional cause for this trouble. Mrs. M. Summers, Box W. 309, Windsor, Ont., will send free to any mother her successful home treatment, with full instructions. Send no money but write her to-day if your children trouble you in this way. Don't blame the child, the chances are it can't help it. This treatment also cures adults and aged people troubled with urine difficulties by day or night.



"Granny" Chamberlain

Croup

"I don't think there is a more anxious time for parents than when their children have croup. Without they are prepared with Chamberlain's Cough Remedy they must wait for the doctor and listen to the choking, metallic cough and watch their little one gasping for breath.

You know the great danger of croup is the formation of a false membrane in the larynx, and until this is expelled relief cannot be obtained, and the spasmodic choking continues. Give Chamberlain's Cough Remedy in frequent doses. It will loosen this membrane and cause the child to expel it by vomiting.

Chamberlain's Cough Remedy

is an absolutely safe and certain remedy for croup, and if given as soon as the child becomes hoarse, or even after the croupy cough appears, it will prevent the attack."

Yours for Health — Granny Chamberlain

29

Edgerton, bowing. Then, turning to Clara: "Your mother! Why, I supposed your mother"

"Hugh!" said the lady who had entered.

Edgerton started. He looked again at Clara's mother, and there came to him a feeling that he had made a grave mistake. He turned from her to the daughter. Under the brighter light he saw that she could not be more than twenty. Turning again to the mother, he recognized his fiancee of sixteen years ago turned into a woman who, though not quite forty, looked at least fifty. Her hair was white, her skin was wrinkled, her neck under her chin was shriveled.

"I am Clara," she said, "and that is 'Baby.' When you went away I did not believe that on your return I would be a fit age for you. I look older than I am, but no man of your age should be tied to a woman of mine. Clara so nearly resembled me as I was when you left that I was tempted to put her forward as myself. The result has been as I expected. In me you looked for the youthful person you left sixteen years ago. You have found an old woman. You supposed that in Clara you would find a little girl. You have found her what I was when you parted from me."

Edgerton listened to this speech with a countenance which despite his efforts, betrayed that it described the situation. At its conclusion he began to stammer objections, but the lady took his hand, pressed it warmly and laid it in that of her daughter.

"I have no wish to influence you two except for your own good. Clara is what I was at her age, and, as I told you years ago, you are a fine fellow. I give you a good wife."

Edgerton married Clara Pomeroy, but she was of a different generation from the love of his extreme youth.

REVENGE

Revenge is said to be sweet—it isn't. Don't make the mistake of believing for a minute that it is.

There is a sort of sullen gratification in feeling that one has paid off an old score "with interest," but there is no sweetness in it; and when the first sense of triumph has passed it leaves a sting of self-reproach, of degradation that is hard to efface.

Not long ago, on a day's pleasure trip, we fell into a usual habit of studying the faces of people we met.

Near us sat two women; one of them in particular, was possessed of regular features, dark eyes and abundant hair, and her face should have been a pleasing one. It was not, however; her mouth, when she closed it, was hard and straight, and the deep furrows extended across her forehead and down her cheeks were never in the world produced by age.

Her eyes had a fashion of glancing sharply and suddenly about, as if she was constantly on the lookout for something unpleasant. It did not take the little snatch of conversation which drifted across to where we sat dreamily watching the waves to tell us that for years she had fed the canker of hatred, and fostered the desire for revenge in her heart.

"I've never forgiven her," she said. "Maybe you'll call it a little thing—but I always pay my debts, large or small, and I'll just as sure get it back on her as I live."

There it was—the hardness, the unforgiving spirit, the continual quest for the opportunity to retaliate—all pictured so plainly that he who ran might read, in the stern, furrowed, unlovely face and shifting, watchful eyes.

Oh, the pity of it—and more, that a life had been scoured, a character distorted, perhaps the happiness of a home destroyed by the hateful desire to make another "rue the day."

Because no one, man or woman, can be happy or make others happy if the wish to work harm to any living creature is fostered in the heart. Do not forget this; and commence now, this moment, to wipe out the old grudges. They have poisoned you long enough. Kill them with the antidote of good will.—Western Farmer.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

GIRLS' COAT.

By Anabel Worthington.

One of the late arrivals in coats is seen in this picture. It is one of the straight front models with the skirt section plaited at the sides.

The collar presents the new fashion in neck finishes, cut deep and round and inlaid with velvet or satin. The general note of the season is brought out in the button decoration of the front sides, the closing is at the left side. Crown cuffs on full length sleeves correspond with the collar; the belt may be of material or a leather belt.

The body part of the coat is neatly fitted at back and in front where the double breasted effect is gained by arranging the buttons as shown and where a backward turning plait is introduced with effect.

For every day zibeline, corduroy, cheviot and like weaves are desirable. For a Sunday coat the appreciation and enthusiasm of the girl will run high if the model is developed in velvet, with raccoon fur for the collar; velour and broadcloth also are excellent materials. A serviceable and stylish coat may be developed from the pattern without difficulty.

The coat pattern, No. 8,023, cuts in sizes 8 to 14. To make in size 8 requires 2⅝ yards 44 inch goods and ⅝ yard 36 inch contrasting goods.

GIRLS' RUSSIAN BLOUSE DRESS.

By Anabel Worthington.

For a school girl, a very attractive design in a Russian blouse dress is pictured. A new touch is given by the button trimming of the shaped front where it laps the side fronts, and the pinafore suggestion is carried out by this treatment. A box plait down the centre draws attention to the back of the blouse.

A very pretty way of introducing color is to make the collar of contrasting goods and adding a tie will lend smartness. The sleeve is long with a wristband cuff and a leather belt is used to draw in the fullness at a lowered waist line.

The full plaited skirt is attached to an underwaist; it may be of plaid as shown in the illustration, or other favored fabric, and the blouse in a different weave. Or the dress may be entirely of serge, or other material, if you like. For just school wear many mothers like linen and similar tub fabric for a blouse worn under a heavy coat—the skirt being of woolen weave.

The dress pattern, No. 8,028, cuts in sizes 8 to 14 years. To make in size 10 will require 1⅞ yards 44 inch goods for the blouse, with ¼ yard 18 inch material for the collar; 2⅛ yards 44 inch plaid for the skirt, and ¼ yard 36 inch lining for the underwaist.

WASTE AT TABLE

Speaking on "Waste at the Table," Mr. Grant Ramsey, principal of the Institute of Hygiene, Devonshire Street, said a greater number of people died every year from overfeeding than from starvation, and an eminent specialist had stated that 95 per cent. of all diseases were due to errors of digestion. Two good meals a day were enough, but it was the quantity eaten, rather than the number of meals, which mattered, and three might be taken with equal benefit if they were not too large. The custom of having cut bread and butter was very wasteful, as often only half of what was cut was used, or people were induced to eat more than they needed, because it was on the table. Bread was tremendously wasted. It should be kept in stone jars, and when cut turned down on the side that had been cut. Butter, too, was very often wasted by making it into pats, which depreciated its keeping quality by giving it a larger surface to the air. Both bread and butter were better kept in bulk.

REMOVING VARNISH

Many women have their floors varnished, and the varnish is chipping and there is nothing apparently to do but put on another coat and renew the operation every time the varnish is so much chipped that it makes the floors unsightly. There are many things recommended for removing varnish, each warranted to take it off with but little trouble. Personally, I think from much experience that it is impossible to take the hard floor varnish off without considerable trouble, but it can be done. The best remover I have tried is plain, simple lye. Get a can of lye and put it in an old pail or kettle and pour on warm water. Do not put it in any vessel that you wish to use for anything again. Also, if the water is hot, be careful where you have it, for it is likely to boil over and destroy everything in sight, and burn your hands if you touch it.

It would be a good plan to put the pail in the middle of the floor you wish to clean and put the lye in dry and then add the water, and be careful not to inhale the fumes. When the lye is melted, take a long handled brush and rub the lye water over the floor. Let stand for a while and rub on again. To remove, mix with great quantities of water and wash out with a broom, or if it is not possible to wash it out, it may be wiped up with safety if enough water is mixed with it.

In finishing a floor I would strongly advise anyone who wants a floor that will not require refinishing often to refrain from using varnish. I have used plain varnish and varnish stain and both were unsatisfactory. They invariably chip when a heavy piece of furniture is moved over them or someone with nails in their boots walks on them. A stain and wax finish is not so bright as the varnish, but it is hard and will wear regardless of what goes on over it.

THE WOOD IN VIOLINS

The front of a violin is usually made of deal, the back of maple. Now, a piece of wood can be set in vibration just like a string in tension, and a certain musical note will be the result, the pitch depending upon the length, thickness, and density of the wood. The curious fact has been established by experiment that in all the best Stradivarius violins the "note" produced by the front of the instrument is the same; and again, that in no case is the note of

GOLD DUST
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The Busy Cleaner
GOLD DUST
Made in Canada
Millions of women use Gold Dust as a time saver in dish-washing, cleaning sinks, ice-boxes, stoves, kitchen utensils, enameled ware, etc.
It cleans and brightens everything without scratching or marring. Five-cent and larger packages always on sale.
THE N.K. FAIRBANK COMPANY
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MONTREAL
FAIRBANKS
GOLD DUST
Washing Powder

the front the same as the note of the back. It is known that there are acoustic reasons for this, and these reasons determine the kind and quality of the wood. The front of the instrument must be light, soft, and porous, and deal answers best to these demands. When the wood is dry, the microscope will reveal a multitude of little hollow cells, once filled with sap. The more of these cells there are, the more quickly will the wood vibrate to the sound, and here fine skill in selecting the wood comes in. The maker might cut up a dozen pieces of deal, and perhaps only one piece would be absolutely perfect for its purpose. Similarly with the maple, of which the back of the instrument is made. This is a harder wood, containing less sap, and consequently fewer cells when dry. It is used because it vibrates more slowly than deal, and the effect on the violin is to detain the waves of sound radiating from the deal and to mix them with slower vibrations of the back in the hollow of the instrument. The ribs and sides of the violin are of maple, and these serve to connect the quickly vibrating front with the slowly vibrating back and hold them until both throb together with full pulsation and body of sound.

HEADACHE

There are many things that produce headache, among them being long-continued straining of the eyes, sudden excitement, bad air and want of ventilation, alcoholic drinks, and a variety of other causes. Another fruitful source of headache in men is the absurd fashion of hats which society now imposes. Tight boots and shoes will also cause headache and destroy comfort, grace of motion and happiness. They prevent the flow of blood to the extremities and cause slight congestion of the brain. Tea drinking is often an unsuspected cause of headache, causing, as it does, exhaustion of the nervous system, and coffee the same thing. This is a drink which people are very apt to abuse, and those who find it injurious should discontinue its use. Going without sleep or taking too little sleep produces headache. Most people require eight hours out of twenty-four for sleep in order to perfectly restore the nervous system. The headaches of old age are generally caused by taking too much food—more than is required by the work done and more than can be digested. The remedy for this is moderation, for as the powers of life wane they should not be taxed more than is absolutely necessary.

ABOUT THE EYES

When a child or a young person is afflicted with nervous trouble and headaches, the causes for which seem obscure, it is well to consult a good oculist.

It is not generally known that very few people or children have eyes exactly alike. Eyes, to the inexperienced, may look precisely alike as to form and colour, when they are in reality dissimilar.

Where there is a physical difference in a pair of eyes, those eyes focus at different points, and the eyes in their effort to accommodate themselves to the conditions named are put to unusual and unhealthful strain, and consequently the brain is to this extent disturbed, causing headache, nausea, and different nervous symptoms.

Where eyes do not focus correctly, sometimes a slight operation cures the irregularity. In most cases the patient will prefer to wear specially prescribed glasses. These glasses relieve the eye-strain by enabling the eyes to focus alike, after which the nervous troubles and headaches disappear.

FRESH AIR AND BATHING

Abundance of fresh air day and night is of vital importance to all babies at all seasons, but of even more importance, if possible, n summer. If you have to keep your baby in the city, you should get up very early, give him a cool sponge bath, then his morning feeding, and take him out for an hour or two before the pavements become heated. By 11 o'clock he should be put in his crib in a shaded place for a two-hour sleep—three hours is not too much in midsummer. He should be absolutely alone and quiet during this rest period. Be sure that he is protected from flies and mosquitoes by netting. He should be taken out again in the late afternoon when it begins to grow cooler.

Keep the windows open top and bottom by day and at night. All windows should be wide open and free from obstruction. There should be a continuous stream of cool air from the outside passing across the room and out of a door or window on the opposite side. Baby's crib may be sheltered by a low screen. If you can possibly arrange, let the baby sleep outdoors at night.

CORNS, SOFT AND HARD

You can easily cure the soft corn, which is often perfect agony. I learnt that only in recent years from a lady friend. None of the doctors' books said anything about it. All you have to do with a soft corn is to get a little powdered chalk, and rub it on with cotton wool every night. Very soon your trouble vanishes. The sensitiveness is apparently due to the moisture, and disappears when the place is kept thoroughly dry. You can also cure a hard corn if you have

"My Kidneys are a constant worry to me."

That is because they are Weak. Let Dr. Cassell's Tablets give them Strength and Activity.

A little strength is worth a lot of drugs in curing kidney trouble. Vital strength, generated in the nerve-centres—the power-stations of the body—is the living force that keeps the kidneys healthy and active.

That explains why Dr. Cassell's Tablets are so good for your trouble. They nourish the nerve-centres, and thus keep the kidneys supplied with all the motive power, all the strength they need. There is nothing random in that method of treatment; it is wholly scientific. Test it, prove it by taking Dr. Cassell's Tablets. They must help you as they have helped others. Read what a scientist says of them:—

Dr. CHAS. FORSHAW, F.R.M.S., F.C.S., D.Sc., &c., a well known English scientist, writes: "My knowledge of Dr. Cassell's Tablets leads me to the opinion that the ingredients form a remarkably potent medicine (quite safe for young and old) in cases of nervous prostration, debility, anæmia, malnutrition, and many forms of stomach and kidney trouble."

Dr. Cassell's Tablets.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative and Anti-spasmodic and of proved therapeutic value in derangements of the nerve or functional systems of old or young. They are the recognised remedy for

Nervousness	**Sleeplessness**	**Indigestion**
Nervous Breakdown	**Anæmia**	**Palpitation**
Neurasthenia	**Malnutritions**	**Kidney Trouble**

Specially valuable to nursing mothers and women of Middle life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One Tube 50 cents, six tubes for the price of five. War tax two cents per tube extra.

FREE SAMPLE. On receipt of cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul Street, Toronto.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, England.

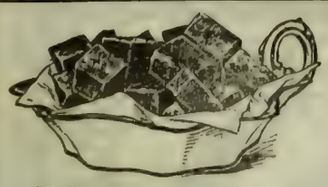
FREE FAIRY PALACE DOLL HOUSE, 5 BEAUTIFUL DOLL TOYS AND "PRINCESS PAT" DOLL

Just think girls we will give you all these grand presents absolutely without cost. First The Big Beautiful Fairy Palace Doll House, so big and roomy that it will hold a whole family of dolls; then a real Wash Set of 14 pieces, consisting of wash tub, wash board, wringer, iron and stand, big clothes basket, clothes line and a little case full of dolly clothes-pegs; then you get a five-piece baking set, and the cute little French bisc baby doll that you'll just love. Next comes baby doll's lovely enamelled bed with its canopy and the beautiful baby doll carriage you see above, handsome as can be with its fine parasol and bright metal finish. Last but not least, every girl can get the lovely big "Princess Pat" dressed doll—over 18 inches high. It's a "made-in-Canada" beauty, with unbreakable head and she is dressed completely from head to foot, real shoes, stockings, underwear, etc., and she has many different styles of dresses.

GIRLS—Write to-day and we will send you Free a big sample package of Fairy Berries, the lovely new Cream Candy Coated Breath Perfume. We want you to try them and learn how delicious they are. With your sample we will send just 30 handsome big packages to introduce among your friends at only 10c each. That is easy. Open your sample package and ask everyone to try a Fairy Berry. Everyone just loves them—they perfume the breath, purify the mouth and leave a delightful lasting fragrance. Everyone takes a package or two at once, so you will sell them all very quickly. Then return our money only, $3.00, and we will promply send you the big Doll House, complete wash set, baking set, baby doll, doll bed, doll carriage, just as you see them, and the lovely big "Princess Pat" doll you will also receive for simply showing your grand presents among your friends and getting only three of them to sell Fairy Berries and earn our lovely premiums as you did.

Write to-day girls—We arrange to stand payment of all delivery charges on your presents and if you can't sell all the breathlets we will take them back and give you presents for what you do sell.

Address THE FAIRY BERRY COMPANY, DEPT. B. 46 TORONTO, ONT., 15a



University Fudge

The Lantic Sugar Cook Book gives the recipe for this and many other new sweets. Send a red ball trade-mark, cut from a Lantic package, for a free copy.

Lantic Sugar

"The All-Purpose Sugar"

will please you by its purity, convenience and high sweetening power.

The Sugar with the red ball trade-mark

Packed in 100-lb. Bags

For book, address
Atlantic Sugar Refineries, Ltd.
Power Building, MONTREAL 11

Fruit juices may be given very early, those mentioned before, prunes and orange juice. Give the juice between feedings so that there need be no cause for a sour stomach.

Scraped fruits, such as apples, pears, peaches and plums, may be used in small quantities if great care is taken first that the fruit is neither too ripe or under ripe and that there are no lumps to be swallowed.

Children who suffer with swollen gums will be greatly refreshed by fruit juice or scraped fruit. And how many worrying babies, who cannot tell what they want, would rejoice if given frequent drinks of pure, cool water.

A child's digestion is much more rapid than an adult's, so it is necessary that they be fed oftener and in small quantities. At 15 to 18 months a child will need some such a diet as to food and time as this—at 7 or 8 a breakfast of a cereal, bread and toast and a cup of milk; at noon an egg, potato, one other vegetable, bread, fruit, either scraped or as juice; at 5 or 6, milk from a cup and bread; at 10 a cup or bottle of milk. Vary the cereals so that they may become accustomed to like a variety. The chief thing to remember in cooking cereals is to cook them long enough. Serve with good milk, with no sugar. The child gets the right kind and all the sweets that are good for him in the fruits he eats at this age.

Foods that must be denied children should not be put temptingly before them and that is one good reason for having little people eat alone. Their own food needs to be palatable and attractively served. Table manners may be learned, at a very early age. Children should eat at meals, not between, for the digestive tract needs rest.—Nellie Maxwell.

TROUBLE WITH RANCID MEAT

In the fall when we cure our pork we dry-salt it, using 8 pounds of salt and 3 pounds of sugar to 100 pounds of meat, divided in three; the meat is rubbed thoroughly every three days with the mixture. Then days after the third rubbing it is hung up to dry. Why does the meat become dry, and get a rancid taste? All of the outside of each piece is so rancid it cannot be used.

Difficulties of this kind often are due to causes which can be prevented by proper precautions in handling hogs before slaughter and cooling the meat before salting. It is advisable to keep hogs off grain feeds for 24 hours or more before butchering. Plenty of water should be given, and grass or other succulent feed does little or no harm; but hogs which are full-fed up to the time of slaughter do not bleed nor cool out so well as those which are taken off feed beforehand. They should be quietly handled when bringing them to the butchering place, so as to avoid any straining of the muscles or joints or getting the animals heated or excited. Otherwise the meat may not take salt properly because of a feverish condition, blood clots or souring of the "joint waters."

After butchering, the dressed hogs should hang until the animal heat is out of the meat. At 34 to 40° F., which is the most favorable temperature for hog killing, hogs of medium size will cool in a few hours. When butchering must be done in warmer weather, usually it is advisable to let the carcasses hang over night before cutting and salting. The curing formula used by the correspondent may be reduced to 5 pounds of salt and 2 pounds of sugar with good results; and many prefer to add 2 ounces of saltpeter, which tends to prevent shrinkage, improve the flavor and brighten the color of the meat. It may be that wrapping the cuts after smoking would prevent the difficulty by protecting them from insects. First sprinkle a little ground pepper over each piece and rub into the surface, wrap in clean papers and cover with canvas or muslin. A coating of lime whitewash containing a little glue or a yellow wash made of barium sulphate, glue, chrome yellow and flour sometimes is used where insects are very troublesome.—Louis D. Hall, Department of Agriculture.

JUST-A-GLANCE

WHEN you can see things baking; why, half the work is gone.

No bending to look into the Handy-height Oven.

No opening the Clearview Oven Door—and jarring the good things before they are done.

Just a glance as you go about your work tells how well things are going in your Lighter Day Coal Range.

White Porcelain Enamel and Nickel Finish. Booklet, fully illustrated, on request.

LIGHTER DAY HIGH OVEN COAL RANGE

Clare Bros. & Co. Limited, Preston. 12

patience and perseverance enough to endure a good deal of pain and perhaps lameness. Cut off the hard top and apply strong nitric acid with a bit of stick—the butt-end of a lucifer match will do. Cut off again and repeat in about ten days, and so on till all is gone. But most people don't care to do this, and keep themselves easy merely by cutting the corn until all the white core is out. Then you have comfort for a fortnight or so, when the process has to be repeated. —"Preston Guardian."

WHAT CHILDREN SHOULD EAT

"Ah! what would the world be to us
If the children were no more?
We would dread the desert behind us
Worse than the dark before."

It is often difficult to know just what kind of food to give second year children and how best to prepare it.

If during the first year the child has learned to like fruit juices, such as orange and unsweetened prune juice, the state of scraped fruits will easily follow.

All changes in a child's diet should be made very carefully and when any new food is introduced it should be given in small quantities, a teaspoonful or two being sufficient. Baked potato is one of the easily digested vegetables and seems particularly adaptable for a child's food. A little milk is best to use on it at first with a bit of salt, then cream and butter may be added. After a child has become accustomed to potato a teaspoonful of finely mashed, seasoned peas may be given, carrot, spinach, string peas and any vegetable not too woody.

Given in small quantities, finely mashed and well seasoned, a small child will learn to like all vegetables as soon as he is served with them. In fact he will never have to learn to like the most valuable of all foods, the vegetables.

Unprofitable

A six-weeks-old calf was nibbling at the grass in the yard and was viewed in silence for some minutes by the city girl.

"Tell me," she said, turning impulsively to her hostess, "does it really pay you to keep as small a cow as that?"

CROWN BRAND CORN SYRUP

Everybody's Favourite

Children think only of the sweetness and delightful flavour, on Bread, Toast and Griddle Cakes.

But "grown-ups" know of the splendid food value of this famous table syrup—how wholesome and nutritious it is—and far more economical than preserves, or butter and sugar, when spread on bread.

Get "Crown Brand" in the 3 pound "Perfect Seal" Glass Jars—or 2, 5, 10 or 20 pound tins, if you prefer.

Write our Montreal Office for a copy of our new recipe book—"Desserts and Candies"—sent free.

THE CANADA STARCH CO. LIMITED
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.
Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch. 225

Had Pneumonia

DR. WOOD'S NORWAY PINE SYRUP CURED HIM.

A cough is an early symptom of pneumonia. It is at first frequent and hacking, and is accompanied with a little tough, colorless expectoration, which soon, however, becomes more copious and of a rusty red color, the lungs become congested and the bronchial tubes filled with phlegm making it hard for the sufferer to breathe. Males are more commonly attacked than females, and a previous attack seems to give a special liability to another.

On the first sign of a cold or cough you should get a bottle of Dr. Wood's Norway Pine Syrup and thus prevent the cold from developing into some serious lung trouble.

Mrs. E. Charles, North Toronto, Ont., writes: "Two years ago my husband had a very bad attack of pneumonia, and the doctors said he was getting consumption. A friend came in to see me and told me to get Dr. Wood's Norway Pine Syrup. I got three bottles, and they seemed to quite clear his chest of the phlegm, and now he is fine and well.

I shall never be without it in the house as it is a very valuable medicine."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper; three pine trees the trade mark; price 25c. and 50c.

The genuine is manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

CHILDREN'S COUGHS

and how to Cure them with

VENO'S LIGHTNING COUGH CURE

The efficacy of Veno's Lightning Cough Cure is the wonder of every mother who uses it for her children. It cures Whooping Cough, Bronchial Cough, La Grippe, every kind of cough and cold to which children are subject. And it cures so quickly and thoroughly that all anxiety is soon set at rest. There are no dangerous ingredients in Veno's; it suits the constitution of children, and that is why it is so good for them. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

PILES CURED at HOME by NEW Absorption Method

If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers. Box P. 309 Windsor, Ont.

VETERINARY COURSE AT HOME

Taught in simplest English during spare time. Diploma granted. Cost within reach of all. Satisfaction guaranteed. Have been teaching by correspondence twenty years. Graduates assisted in many ways. Every person interested in stock should take it. Write for catalogue and full particulars . . **FREE**

LondonVet.Correspondence School

Dept. 82 London, Ontario, Can.

WINTERING IDLE HORSES CHEAPLY

(Continued from page 126)

should be used, as it is more palatable than other sorts.

How to feed.—It would probably be well to chaff at least half the hay and straw, but as the idea is to lower expenses, there seems no doubt that the cost of cutting these roughages would be greater than that of the extra feed necessary to supply the energy used in masticating them. The roots were sliced, most of the time for the experiments, and it seems better to give them thus, though it is not absolutely necessary, as long as they are not of such sizes as to be swallowed whole, when there may be danger of choking.

When to feed.—It was noticed at Cap Rouge that the legs of horses kept in box stalls, and fed as previously described, did not stock up. If there is no box stall, it is advisable to turn the animals out every day, when the weather permits, so that they may take some exercise. In this case, it is probable that somewhat more feed will be needed, to make up for the lost energy and heat. As to the number of times to feed, it seems that twice a day is sufficient, and that about the same quantity can be given both morning and evening.

DWARF EGGS

(Continued from page 127.)

which still held in the egg tube, a yolkless dwarf egg. Also several yolkless dwarf eggs contained one or two apparently perfect chalazae. In these cases it seems possible that all or a part of a yolk may have entered the egg tube, started the secretion of the egg white, and may then have been extruded, leaving behind enough of the white to furnish the stimulus for the completion of the egg. It is known certainly that the discharge of a yolk from the ovary into the body cavity when there is no stimulation of the egg tube does not result in the formation of a dwarf egg or in the production of any secretion in the egg tube. In a single case, a yolkless dwarf egg containing a small lump of hardened egg white was found in an egg tube and no yolk was found in the body cavity. It has also been shown experimentally that in certain cases an active egg tube can be excited to secrete egg white and shell around an artificial yolk when all possibility of the entrance of a yolk is excluded. It is, therefore, probable that in a small per cent of the cases, dwarf eggs are produced by the stimulation of an active egg tube by a small lump of hardened egg white left in the duct or abnormally secreted by a blood clot or by some other firm foreign particle which in some way enters the tube.

In 5 per cent of the cases of dwarf egg producers, the laying of dwarf eggs became habitual. That is, they eventually produced only dwarf eggs. Post mortem examinations of several of these cases showed a constriction of the egg tube (usually by a tumorous growth on the walls), which prevented the passage of a normal-sized egg, but did not entirely close the tube. In many of these cases, all or a part of the dwarf eggs contained yolk. In other cases they contained one or two chalazae, while in others they contained lumps of hardened secretion, etc.

It is then apparent that whether dwarf egg production occurs once only or many times in succession, its cause is the same. It is due to the mechanical stimulating of an active egg tube associated with a functioning ovary. In a large per cent of cases the stimulating agent is either a small yolk or more frequently a part of a normal yolk, the rest of which is discharged into the body cavity.

Chas. D. Woods,
Director Maine Experiment Station.

A Very Merry Christmas

The Gift That Gets A Smile –

because it guarantees unequalled service—from Christmas to Christmas — over and over again — is

The Gillette Safety Razor

It's the "safest" gift you can select, for every man shaves, and knows that in the Gillette you are giving him the best equipment that money can buy. His appreciation will be SURE and LASTING.

Christmas Gillette displays will be in the windows of all the hustling Gillette dealers—Drug, Jewelry, Hardware and General Stores—everywhere—in a dozen styles or more—priced from $5 to $25.

225

Gillette Safety Razor Co. of Canada, Limited

Office and Factory—GILLETTE BUILDING, MONTREAL.

Gillette KNOWN THE WORLD OVER

THE WHOLESALE DEPLETION OF POULTRY LAYING AND BREEDING STOCK NOT WARRANTED UNDER PRESENT CONDITIONS

Judging from the unprecedented heavy deliveries of poultry on the central eastern markets so early in the season, it would appear that farmers and producers generally are not only depleting their flocks unwarrantably but also rushing them to the market in an unfinished condition. As a result, the current price of chickens is much below normal value at the present time, in comparison with the prices of other meats. This is directly due to the overloading of the market.

With the brisk inquiry for Canadian poultry from Great Britain, it is expected by exporters that the demand for well-finished, good quality stock will be very keen during the coming winter. Besides, there will be a good demand for home consumption. The price for well-finished birds continues firm, but with so much poor stock arriving wholly unsuited for either storage or export, many buyers have re-

Trappers!

Highest Prices Paid

YOUR money is mailed same day your raw furs are received at our warehouse. Absolutely fair grading guaranteed. By shipping us all your raw furs, especially wolf, you will receive the biggest profit on your whole winter's catch. Send us what you've got now—we need the skins, you need the money.

FREE Every time you send us a $20 shipment of raw furs, we will send you absolutely free, a $1.00 bottle of our Northern Brand Animal Attractor.

WRITE NOW FOR LATEST PRICE LIST

Northern Raw Fur Co.

77 C Front St. E., Toronto, Ont.

We Pay all Express Charges

Ship us your RAW FURS

cently reduced their quotations for all low grades.

The presence of pullets and young fowls has also been noted in many shipments. This is most unfortunate considering the price of eggs. The very firm prospect for the profitable marketing of all poultry products points to the necessity of conserving in every possible way all suitable laying and breeding stock. Unless this is done, there will be but little poultry left in a short time on the farms in the central eastern portion of the country. Even though feed is scarce and high, it would pay farmers well to finish the birds before offering them for sale and spread their deliveries over a longer period.

Current receipts to date have consisted mainly of live poultry. The season is now sufficiently advanced, however, to warrant more liberal shipments of dressed poultry. In light of the fact that there will be a considerable movement of Canadian poultry to Great Britain, it is of the utmost importance that all poultry killed on the farms, in addition to being well-finished, be properly killed and dressed. The British market, in fact all large markets prefer poultry bled in the mouth and dry picked. While killing by dislocation may be preferred by some, the presence of blood in the neck and the resultant discoloration make it unsuitable for storage or export purposes.

Proper and complete bleeding is most essential. Sometimes the arteries of the neck are not completely severed, the bird fails to bleed properly, with the result that the carcass takes on a reddish appearance. With proper attention to details, a useful reputation for Canadian poultry can be established on the British market this year. It is of the greatest importance, therefore, that all poultry marketed be well-finished, well bled and dressed and packed in the most attractive manner possible.

IMPORTANT NOTICE TO SCHOOL TEACHERS

The Scotsburn Creamery Co. is offering cash prizes for the largest average production of butter fat per cow owned by patrons.

Among the special prizes is one offered by H. R. Brown, Recorder of the Scotsburn D. R. C., ten dollars worth of books to the school library of the section whose ratepayers send the most complete records. Non-patrons may compete. No section sending less than six complete Herd Records will be eligible; a complete record being one which covers the full milking period, or 12 months. Full information cheerfully furnished by H. R. Brown, Wallace Bay, N. S.

Teachers can assist materially in this praiseworthy competition. May one or two suggestions be offered. Lumbering and fishing are becoming more and more supplanted by straight agriculture. Dairy farming, the most specialized branch of agriculture, means ample cash remuneration if good cows are kept. Nova Scotia is an almost ideal dairy province, soil, climate, markets, people, all favour it.

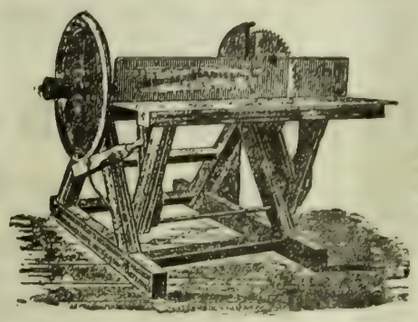
There are excellent cows in the province, there are also many poor cows. Many bring in less than forty dollars per year to their owners. Last year there were 478 herds supplying cream to Scotsburn creamery. Each herd appears to average less than 6 cows. Supposing the forty dollars advanced to fifty, or sixty dollars income per cow, what would it mean in hard cash to the farmers along the short line railroad? It is over ten thousand dollars!

The average yield per cow can be wonderfully increased. Hundreds of other farmers in Canada have done it, by weeding out poor cows, by better systems of feeding and care. Dairy records prove this, and aid in intelligent selection of the best cows; such records are easily kept and often interest the boys and girls. Could you base some of your arithmetic questions on cows' production? Will you take an hour occasionally for a talk on dairying? Questions on milk and its products open many wide avenues.

Your kind assistance is solicited.

Sussex Wood Cutters Cut Expenses

Consult Our Quality Line Before Buying



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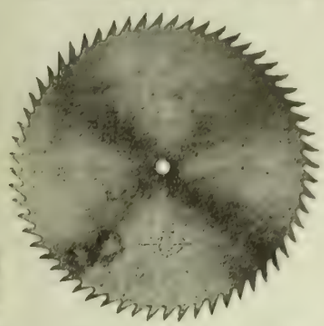
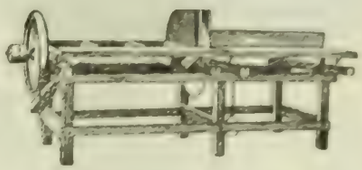


Wood Cutter Saws guaranteed at the right price. All sizes. Prompt delivery.



Flat Roller Table.

CONVENIENCE ECONOMY DURABILITY

are the three money-making qualities embodied in our Wood Cutting Machines. No frail parts to give out in a season's use. Built to last a life time. Frame is made of well seasoned birch, bolted and mortised; table of heavy steel plating in one piece.

Swing Table Machines built on skids, bearings supplied with compression greese cups. Especially adapted for use with gasoline engines. Made in four styles—Long Swing, Long Swing Improved, Short Swing, Flat Table.

Ask for our Catalogue and Prices, it will pay you.

Remember we also manufacture Trenholm Gear Hay Presses, Grain Grinders, Root Pulpers, Feed Boilers, etc.

The Sussex Manufacturing Company, Limited, Sussex, N. B.

GROWING POTATOES FROM SEED

A subscriber in Pictou County, N. S., writes:—I was much interested in your article on page 87 of your November 21st issue, entitled "Potato Seed Bolls". After reading about Mr. Rozee's exhibit at the Yarmouth Exhibition in the columns of the Maritime Farmer, I was interested enough to collect a quantity of seed bolls and wish to know how to proceed to make use of the seed.

Ans.—New varieties of potatoes are originated from seed which is found in the bolls produced on the vines. The seed which is light and fine should be saved in the same manner as the seed from tomatoes.

Cut open the bolls and squeeze out the seeds into a small vessel with as little pulp as possible. Add warm water and allow the mess to ferment for two days so that the little seeds will wash clear from the pulp. After being washed the seeds should be dried, in which condition they will keep through the winter. Anyone who tries to carry the seed boll through the winter will likely lose all the seeds.

Along in March prepare some fine rich light soil that will hold moisture. Rotten cow manure several years old is better than common soil. The seed may be planted in a hothouse, coldframe or in a box in the kitchen window. It should be covered very slightly with soil and must be kept moist by frequent watering or by covering with a piece of cloth until the seeds begin to break ground.

To Investors

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT, MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF $500 OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

RAW FURS
BRING BIG MONEY WHEN SHIPPED TO US
SEND FOR PRICE LIST
Consolidated Fur Corporation
168 KING STREET E. - TORONTO

The plants come up quqickly and should be transplanted and handled like tomatoes. They will frequently produce tubers the first year that will weigh a pound. Each seed will produce a distinct variety. Promising new varieties must be grown for several years and tested in the fields alongside of standard sorts for at least two years before their true value can be determined.

Perhaps Mr. Rozee will tell us how he managed his very successful experiment.

SUSSEX & STUDHOLM

The Annual Meeting of the Sussex & Studholm Agricultural Society was held in the Agricultural School, Sussex, on December 1st.

There was a good attendance of members and others interested in the work of the Society. Several new names were added to the list.

J. T. Prescott, the president of the Society presided. Minutes of all meetings held since last Annual Meeting were read by the Secretary and approved.

The question of changing the annual meeting date from December 1st to an earlier date was discussed as per the notice of motion brought in at the 1915 Annual Meeting by the Secretary. It was found desirable to change the date of meeting because all reports are supposed to be in the hands of the Secretary for Agriculture, Fredericton, on or before December 1st.

Fertilizer orders should be in the hands of the Secretary of the Society as long before December 1st, as possible.

On motion of W. F. Mosher, seconded by H. R. McMonagle, the annual meeting date will henceforth be on the second Monday in November of each year.

The committee appointed to meet the Sussex Board of Trade and Town Council to solicit the assistance of these bodies in the carrying on of an Agricultural Exhibition in Sussex.

Agricultural Exhibition in Sussex reported that two meetings were held but no definite action was taken by the Town Council re financial assistance.

The committee appointed to interview the stock holders of the Sussex Driving Park Association re the disposal of their stock to the Sussex and Studholm Agricultural Society, met with a good reception by the various parties interviewed, many of whom expressed their willingness to donate their shares to the Society.

A committee consisting of E. O. McIntyre, J. Frank Roach and M. A. MacLeod, was appointed to interview said stockholders and arrange for transfers.

The financial statement and auditors report were read by the Treasurer. The finances of the Society are in good shape and the various transactions re Seed Fair, Purchase of Fertilizers, Sale of Wool and Grain Growing Competitions have been highly beneficial to the members.

Over 3200 pounds of unwashed wool were sold netting the growers 38¼ cents per pound.

$119.75 were distributed in prizes at the Seed Fair.

The Grain Growing Competition prizes amounted to $350.00.

By the co-operative purchase of fertilizers the members effected a saving of from $9.00 to $15.00 per ton, according to grade purchased.

Is it any wonder that farmers who have their own best interests at heart, become members of the Society and participate in the benefits of the organization,

It was unanimously agreed to continue the Seed Fair, Grain Growing Competitions, Wool Sales and Co-operative purchase of fertilizers.

The election of officers resulted as follows:—

President—J. T. Prescott, re-elected.

Vice-President—J. F. Roach.

Directors—Hon. J. A. Murray, Col. H. M. Campbell, J. Titus Barnes, F. Leslie Walker, W. F. Mosher, H. R. McMonagle, H. B. Parlee, E. O. McIntyre, A. D. Freeze, W. H. Venning, R. S. Parlee, H. N Flewelling, William Jamieson.

Delegates to New Brunswick Farmers' & Dairymen's Association:—A. D. Freeze and J. F. Roach.

Substitutes—H. R. McMonagle and H. N. Flewelling.

ST. STEPHEN & ST. CROIX

The eighth annual meeting of the St. Stephen and St. Croix Agricultural Society was held recently, President F. M. Murchie occupying the chair and a large number attending.

The energetic secretary of the society, Walter S. Stevens, gave an interesting review of the work of the society during the past year and dealt with many features of the recent successful fair.

R. W. Whitlock, the efficient treasurer, gave a careful review of the financial transactions of the society, showing among other features, a profit of $935.00 on the work of the year.

On motion the president appointed J. W. Scovil, M. W. McCormack, M. N. Cockburn, L. B. Mitchell and R. W. Whitlock a committee to name the board of directors for the coming year, and on their recommendation the following were appointed:

F. M. Murchie, J. W. Scovil, J. C. McLeod, H. M. Webber, H. M. Grimmer, W. A. Dinsmore, A. M. Budd, P. F. McKenna, G. H. Budd, A. A. Laflin, F. D. J. Graham, W. H. Keys, M. N. Cockburn, R. W. Grimmer, J. W. Smith, G. W. Ganong, Saml. Scott, Jas. Marraty, R. W. Whitlock, B. M. Hill, M. W. McCormack, L. B. Mitchell, W. C. Arnold, W. R. Simpson, E. W. Ward, H. E. Hill, Hugh Love, Thos. Toal, Edwell Emerson, J. E. C. McAlister, F. Littlofield, D. Johnson, Levi Stewart, J. W. Fraser W. S. Poole.

The meeting was then closed and the directors went into session.

Your Maple Grove Is the Most Profitable Part of Your Farm

No matter what crops you raise one single acre of maple trees, will give you a bigger profit with less work, less time and at less expense than an acre of any other crop on your farm.

An acre of oats returns only about $20, and you must plough, fertilize, harrow, drill the seed, reap, thresh and pay for seed, besides your time, horses, help and expensive machinery. Your profit is about $5.00. An acre containing 100 maple trees will return about $30, in syrup and sugar, and the cost is only about $10, with your time at a season of the year when you can not do anything else.

We will show you how to do it, supply you with the proper equipment and let you pay cash for it or pay in two or three yearly payments.

Write us today for the fullest information and do not longer neglect the present high prices for maple products.

Grimm Manufacturing Co., Limited
45 Wellington Street, Montreal

We are not advertising PIG-TROUGHS in this issue of the welcome "FARMER" with the expectation of delivering a great many of our Troughs at this season. But we do EXPECT that many a thoughtful farmer will now, or before winter is very far advanced, enquire of us concerning the

Cast Iron Pig Troughs

we make, so that when Spring returns he will have ascertained the immense advantage of these over home-made wooden ones and will have ensured getting his supply when required by ORDERING EARLY.

Besides these we manufacture Feed-Boilers, Turnip-Pulpers, Grain-Boxes, Cheap but Serviceable Stoves, Griddles, Frying-Pans, Pots, Etc.

Enquiry and inspection carry no obligation. You'll possibly be in the Provincial Capital during the winter sometime. CALL.

The Smith Founday Company, Ltd.
Fredericton, N. B.

LOOK!! $3,300.00 IN CASH

Has been GIVEN AWAY to the Public by the Publishers of this advertisement to advertise their goods. $200.00 more IN CASH and numbers of other valuable articles will be given away at an early date.

1st Prize, $50.00 in Cash. 2nd Prize, $40.00 in Cash
3rd Prize, $35.00 in Cash. 4th Prize, $25.00 in Cash.
5th to 9th Prizes— Each $10.00 in Cash.

Herewith will be found the picture of a Chinaman washing clothes. About his person and the washtub are concealed the faces of his seven daughters Can you find them? Try—you may win a cash prize by doing so. Many have done this as will be shown by the names and addresses we will send you. If you find the faces, mark each one with an X, cut out the picture and send it to us, together with a slip of paper on which you have written the words "I have found all the faces and marked them."

Write these nine words plainly and neatly, as in case of ties, both writing and neatness will be considered factors in this contest.

This may take up a little of your time but as there are TWO HUNDRED DOLLARS in cash and many merchandise prizes given away, it is worth your time to take a little trouble over this matter.

Remember all you have to do is to mark the faces, cut out the picture and write on a separate piece of paper the words "I have found all the faces and marked them."

We Do Not Ask You to Spend One Cent of Your Money to Enter This Contest

Send your answer at once; we will reply by Return Mail telling you whether your answer is correct or not and we will send you a complete Prize List, together with the names and addresses of persons who have recently received over Three Thousand Dollars in Cash Prizes from us, and full particulars of a simple condition that must be fulfilled. (This condition does not involve the spending of any of your money.

This competition will be judged by two well known business men of undoubted integrity, who have no connection with this Company. Their decisions must be accepted as final.

Upon receipt of your reply we will send a complete list of the names and addresses of persons who have won $3,300 in Cash Prizes in recent contests held by the publishers of this advertisement. Although these persons are entirely unknown to us, they are our references. An enquiry from any one of them will bring the information that our contests are carried out with the utmost fairness and integrity. Your opportunity to win a good round sum is equally as good as that of anyone else. Never Venture, Never Win.

Send Your Reply Direct to
GOOD HOPE MANUFACTURING COMPANY
31 LATOUR ST. MONTREAL, CAN.

F. M. Murchie, the esteemed president of the society since its organization, was re-elected, though he asked that another be chosen. The other officers elected were: Henry E. Hill, 1st v. p.; M. N. Cockburn, 2nd v. p;. R. W. Grimmer, 3rd v. p.; W. A. Dinsmore, 4th v. p.; David Johnson, 5th v. p.; W. S. Stevens, secretary; R. W. Whitlock, treasurer.

E. W. Ward, chairman of a committee that had been appointed to report on the best means to be adopted to secure increased grounds for the society, reported recommending that the society purchase from H. E. Hill and the other owners, the lot at the rear of the present fair grounds and to the south of the trotting park. This land includes about three acres, or more than double the size of the present fair grounds, and the price fixed was $350.00, the land having been cleared at a cost of $175.00. It was ordered that the offer be accepted and the proper officers were directed to complete the purchase.

This will insure greatly enlarged fair grounds and some very marked improvements before the next annual exhibition in September, 1917.

For the track committees, R. W. Whitlock reported, recommending an enlargement of the present grand stand at the trotting park and the committee was instructed to carry out the plans as presented. This will provide about as many more seats as are in the present stand and with comfortable backs. Hereafter, seats will be sold by numbered checks, the same as in a theatre and will be on sale "down town" well in advance of the races, an improvement that will be appreciated.

Other contemplated improvements will be decided upon at future meetings of the directors.

FREDERICTON AGRICULTURAL SOCIETY

The annual meeting of the Fredericton Agricultural Society, No. 34, was held recently, there being a fairly good attendance. The financial statement submitted to the meeting by the treasurer, Mr. C. Fred Chestnut, showed a balance for the year's operations of $1,587.80.

For the first time since the organization of the society the application for membership has been made by the ladies. During the past few days, five members of the Women's Institute in Fredericton applied for membership in the society and their applications have been accepted. Hereafter it is altogether likely that the women's department at the Fredericton Exhibition will be handed over to a committee of lady members of the society.

The election of the directors for the coming year was held yesterday the result being as follows: John A. Campbell, C. H. Thomas, G. Y. Dibblee, C. Fred Chestnut, William McKay. W. E. Farrell, A. C. Fleming, A. D. Thomas, F. L. Cooper, W. W. Hubbard, J. Stewart Neill, W. H. Moore, Moses Mitchell, Peter Farrell, J. Fred Ryan. Mr. R. H. Simonds was appointed auditor, this position having become vacant with the death of J. D. McKay.

MARKETS

HALIFAX PRICES

Flour—$9.00 to $11.00, according to grade.

Oatmeal—standard in bbls.—$8.00 to $8.20.

Oatmeal—standard in bags—$7.80 to $8.00.

Rolled Oats—$7.05 to $7.50.

Middlings—$37 to $38; Bran—$33 to $34; Cornmeal—$5.45 to $5.55; Oats—.78c to .80c; Hay No. 1—$14.00 to $15.00; Hay No. 2—$12.00 to $13.00.

Creamery Prints—.45c to .47c; creamery solids—.44c to .45c; dairy prints—.42c to .43c; dairy solids—.41c to .42c; cheese .25c.

New laid eggs—.48c; fresh eggs—.40c.

Apples—Gravenstins, No. 1, $3.50 to $4.00; Gravenstines, No. 2, $3.00; Gravenstines, No. 3, $2.00; King's, No. 1, $4.00; King's, No. 2, $3.50; King's, No. 3, $2.00; Bishop Pippin. No. 1, $4.00; Bishop Pippin, No. 2, $3.00 to $3.25; Bishop Pippin, No. 3, $2.00.

ST. JOHN

Flour and oatmeal are still high in price despite the fluctuations of the former. Hard wheat patents, $11.50; choice patents, $10.55; Oatmeal, $8.50; Cornmeal, $2.50.

American Clean Pork, $40.00 to $41.00; Mess backs, $39.00; plate beef, $30.00 to $32.00; pure leaf lard, 21½c; Compound lard, 17 cents.

Cheese, .25c to .26c; butter, .36c to .38c. Eggs .38c to .40c. Eggs strictly fresh are rising above .50c at retail.

Potatoes—$2.00 to $2.50 per barrel, which is quite a drop from the prices of a few weeks ago.

PRINCE EDWARD ISLAND PRODUCE IN HALIFAX MARKETS

At the time of writing there are very few Island potatoes offering, but such sales as have been made recently have been at the rate of $1.00 a bushel. Not more than half a dozen cargoes have come to this market this fall and it is not thought that there will be many more. A few captains who are at Island ports waiting for cargoes are a bit nervous on account of the cold weather and the prospect that winter may shut down suddenly and freeze them in. They want to get away as quickly as possible, but are having some difficulty in getting cargoes, as on account of the cold snap deliveries have largely stopped. One captain reports to his principal in Halifax that some quantities of potatoes were still in the ground and other quantities still in piles in the fields when the cold wave struck in, and that there will be considerable loss from this source. Considerable quantities of potatoes shipped by rail were caught in the cold snap, but most shippers we think sold f.o.b. either at the Island or point of rail shipment, so that the loss would fall on the buyers in most cases, who were chiefly Montreal and Toronto dealers. One Halifax handler of Island produce estimates that 50 p.c. or more of the Island's crop has been cleaned up and because of this the price is likely to continue firm. The extraordinary demand from the West and from the States has been the feature of this trade this year and has been responsible for putting the price up so high; otherwise, with so large a crop the local market would not be where it is. The latest report we have is that potatoes are being put into vessels at 65c. per bushel, which would make the cost delivered Halifax say about 85 cents, so that allowing for carrying costs it does not seem possible for the price locally to get much below a dollar a bushel. Apparently we shall have to depend upon what vessel cargoes come along before the harbors freeze over, for the railway is so congested with general business that it is not taking any more potato freights.

Oats have been selling in car lots at about 74c. but the impression of the trade is that the market will ease off.

Turnips have bten selling at 45 to 50c., though we understand there are none here at the moment. This is a very high price compared with former standards. From time immemoral up until the last year or two turnips always sold in this market in the fall at 25 cents a bushel, but apparently that is a thing of the past.—Maritime Merchant, Nov. 30th.

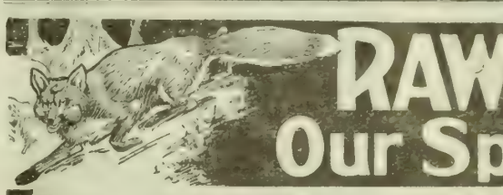
More Profit on Hogs

Here is an actual case taken from letters in our office. A farmer had two hogs, one he fed on Harab Digestive Tankage, the other on an ordinary grain feed. When ready for market the one fed on Harab Digestive Tankage weighed 30 pounds more than the other and sold for $3.80 more. Its feed cost $1.10. His net extra profit $2.70. Harab Digestive Tankage is guaranteed to contain 60 per cent. protein 14 per cent. bone phosphate of lime and 8 per cent fat—the best flesh bone and fat producers.

Harab
Digestive Tankage

is sold by nearly all feed dealers. If your dealer does not stock it and will not supply you, we will send freight paid to your station a 125 pound sack, with directions for feed, for $3.95—500 pounds for $15.00 offered for New Brunswick and Nova Scotia
Please name your feed dealer when ordering.
Send Post-Office or Express Order to—

Ontario Fertilizers
Limited
Dept. K. West Toronto, Ont.



RAW FURS
Our Specialty

We are in a position to state that there is no firm, individual or corporation, that can give

Trappers Better Satisfaction, Bigger Results and Quicker Returns

Write for our Price List and Market Reports which quote the very highest possible honest market prices. It's FREE—Write Now!

No Duty on Furs shipped to U. S. Use Consular Certificate only on shipments of over one hundred dollars.

M. WULFSOHN & CO. Write for Price List No. 108 122-124 West 26th St., New York City

TELEGRAPHIC REPORTS

The November 28th telegraphic report of the Fruit Branch, Department of Agriculture reports as follows:—

Quebec—Potatoes still same price, but market strong.

Montreal—Potatoes, slow sale, $2.00 to $2.25 per 90 lb. bag. Quantity of potatoes and apples frosted unusually large for this date.

Toronto—Potatoes, New Brunswick Delawares, $2.25; British Columbia and Westerns $1.10 per 90 lb. sack.

Winnipeg—Demand for apples slow.

Saskatoon—Potatoes, .75c per bu. No apples in either Common or Cold Storage.

Moosejaw—Demand for apples slow.

Edmonton—Local potatoes, .65c per bu.

Calgary—Potatoes, Albertas, $28 per ton.

British Columbia potatoes $40.00.

SISTER: READ MY FREE OFFER.

I am a woman.
I know a woman's trials.
I know her need of sympathy and help.

If you, my sister, are unhappy because of ill-health, and feel unfit for household duties, social pleasures, or the companionship of your husband, just how you suffer, I long for the free trial of a **home treatment** suited to your needs; with references to Canadian ladies who gladly tell how they have regained health, strength and happiness by its use. I want to tell you all about this successful method of home treatment for yourself, my reader, for your daughter, your sister, or your mother. I want to tell you how to cure yourselves at home at trifling cost, and without a day's inconvenience. Men cannot understand women's sufferings, what we women know from experience, we know better than any doctor, and thousands have proved there is hope even for the **hopeless in my method of home treatment.** If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly **or irregularly, bloating or unnatural enlargements, catarrhal conditions, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you** to send to-day for my complete ten days' treatment entirely free and **postpaid,** to prove to yourself that these ailments can be easily and surely overcome in your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home **treatment, and when you are cured,** my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all.—**young or old.** To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually cures green-sickness (chlorosis), irregularities, headaches, and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember **it costs you nothing** to give my method of home treatment a complete ten day's trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. **Is health worth asking for?** Then accept my generous offer, **write for the free treatment** entitled to you needs, and I will send it in plain wrapper by return mail. To save time you can cut out this offer, mark the places that tell your feelings, and return to me. **Write and ask for the free treatment to-day,** as you may not see this offer again. Address:

MRS. M. SUMMERS Box 309 WINDSOR, ONTARIO.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Jersey Cattle

Cann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls, N. B.

Guernsey Cattle.

T. D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorcheste , N. B.
James McKenny, Summerhill Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

Ayrshire Oattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
Hon. W. Owens, 4026 Dorchester St., Montreal.
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S.

Shorthorn Cattle.

W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
Joseph E. Kinsman, Upper Canard, Kings Co. N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Oxford Down.

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shropshires

C A. Archibald, Truro, N. S.

Yorkshires.

R. J. Messenger, Lawrencetown, N. S.
Hon. W. Owens, 4026 Dorchester St., Montreal.
Sydney J. Goodliffe, Sussex, N. B.

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co. N. S.
A. A. H, Margison, East Centreville, Carleton Co., N. B.

White Wyandottes

R. J. Messenger, Lawrencetown, N. S.

HONEY FOR SALE !

Clover and Autumn Honey in pails of 5 and 50 pounds sizes. Warranted pure.

CRAIG BROS.,
AMHERST, - - N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

One Cent a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 1 cent a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is one cent a word, each insertion. MARITIME FARMER, Sussex, N. B.

TEN Shorthorn Bulls for sale. — WALTER EATON, Upper Canard, N. S.

FOR SALE.—Thirteen months old Guernsey bull, dam in advanced reg.—MRS. T.B.BLAIKIE, Great Village, N. S.

FOR SALE—One Pure Bred Reg. Shropshire Ram, three years old. Wm. B. Hawkins, Millville, York Co., N. B.

FOR SALE—Pure Bred Dorset Ram Lambs. These are sturdy fellows at bargain prices to head your flock. E. A. Howlett, Lake Edward, N. B.

FOR SALE—Registered Berkshire Bore, eighteen months old. C. A. Borden, Scheffield Mills Nova Scotia.

FOR SALE—Hampshire Sheep, both sexes also some males and females of any of the popular breeds. All good stock.—CEPHAS NUNN, Winsloe, P. E. I.

WOULD YOU MARRY IF SUITED? Best matrimonial paper published. Mailed FREE.—THE CORRESPONDENT, Toledo, Ohio.

FOR SALE.—One pure bred Cheviot Ram, 3 years old, and one pure bred Cheviot Ram Lamb.—J H. NICOL, West Bathurst, N. B.

FOR SALE.—Ayrshire Bull, 15 months, 5 ft. 3 ins.; Durham Bull, 12 months, 5 ft. 3 ins. Apply to C. R. DeLONG, New Germany, Lun. Co., N. S.

PORTRAIT AGENTS WANTED.—Send for catalogue. Solar and bromide prints, portraits flax and convex, frames and war pictures.—MERCHANTS PORTRAIT CO., Toronto.

FOR SALE—Ayrshire Bulls and Heifers, from one week to two years. Registered Clydesdale Stallions and Mares John A. Hughes, Petitcodiac, N. B.

GUERNSEYS FOR SALE.—One Bull, 2 years old; one Bull, 1 year old; Fresh Cows; Heifers and Bull Calves. All from record and performance cows. Stock must be sold to make room. —D. G. McKAY & SON, Scotsburn, Pictou Co., N. S.

LADIES to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges prepaid. Send stamp for particulars to NATIONAL MFG. COMPANY, Montreal.

APPLES IN SMALL PACKAGES

Several eastern apple growers were very successful last winter in marketing apples in small or family packages. Some sold direct to the consumer, while others sold to retail stores and fruiterers or consigned to commission dealers. One grower put practically his entire crop in half-bushel peach baskets which were handled by a commission dealer. He used 3500 baskets which sold at 75 cents to $1 each. The results in each instance were generally profitable and satisfactory.

Several styles, types and sizes of packages were employed. Some used cartons holding 12 or 15 apples in individual compartments, like egg boxes. One big grower used a similar type of box holding either 50 or 100 fruits. These are made with compartments of four sizes and are especially adapted to supply fruiterers with fancy apples, peaches, etc. Apples were shipped successfully in them from Massachusetts to California.

A popular family package is one holding a peck of fruit. A western Massachusetts grower used many of them and sold them at 50 cents direct to retailers who got 65 cents for the same. He supplied them daily as needed, making deliveries each morning and taking orders to be packed and filled the next day. In this way there was no shrinkage or loss for the retailer to stand.

Not many growers are situated to market their fruit in this way, but where they are near enough to a good market to make two deliveries a week and have a large percentage of fancy fruit, it is worth trying. The additional returns are not, however, all profit, for it takes considerable more time and labor to sort and pack fruit in small packages than in baskets or barrels.

COMING EVENTS

Maritime Poultry Show, Moncton, N. B., December 12, 13, 14 and 15, 1916.

Annual Meeting and Dairy Exhibition. Nova Scotia.

Dairymen's Association N. S. A. C., Truro, Jan. 4 and 4, 1917.

Nova Scotia Fruit Growers' Association, Lawrencetown, N. S., January 16, 17 and 18, 1916.

Short Courses at the Agricultural School, Sussex, opens January 8, 1917.

New Brunswick Farmers' and Dairymen's Association begins January 29, 1917, and New Brunswick Provincial Seed Fair, Fredericton, N. B., January 31, 1917.

Butter and cheese makers courses at the N. S. A. C., Truro, March 7 to April 4, 1917.

Short Courses at the N S. A. C., Truro, January 2 to 11, 1917.

Nova Scotia Farmers' Association, Amherst, N. S., January 23, 24 and 25, 1917.

FOR SALE!
R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

SHEEP !

We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

Eastern Karakule Sheep Co.

Limited

WINDSOR, N. S.

HE IS LESS DANGEROUS

Eliminate the danger and increase the value of the young bull by dehorning him. The most successful dairymen, drovers and shippers use and recommend the KEYSTONE DEHORNER. Write for booklet. R. H. McKENNA, 219 Robert Street, Toronto.

JERSEY BULLS

Two young Jersey bulls from dams with R. O. P. records. We will sell these bulls at a reasonable price and on condition that the purchaser may return the bull if he is not satisfied with him and we will return the money and pay freight. These bulls are bred right and will get producing stock. Order one you run no risk.

W. C. CLARK & SONS,
NORTH WILTSHIRE, P. E. I.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Willow Glen Shorthorns

At present offering for sale—3 young Bulls and several Heifers, 1st prize winners in young herd at Halifax, all sired by champion bull, Statley Monarch

A. N. GRIFFIN, - New Minas

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

STRAWBERRY PLANTS

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

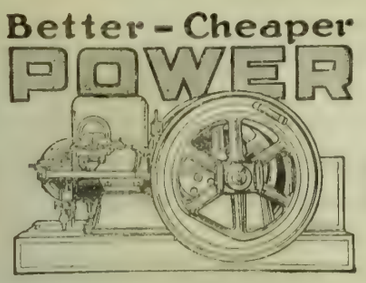
OPPORTUNITY

Owing to not getting a new poultry house built as expected, we are forced to sell about 50 pullets in Barred Rocks and White Leghorns. Also a few more yearling hens and several choice Cockerels.

If interested write,

ORCHARD HILL FARM,
Brown's Flats, N. B.

USES EITHER GASOLINE OR KEROSENE



HERE is news of an engine far in advance of anything else ever offered. It uses either gasolene or kerosene and it has all the features that have made the Page Gasolene Engine so pre-eminently successful. This new engine runs perfectly on gasolene but it is specially designed for running on the cheaper fuel—kerosene oil.

There is nothing complicated about this engine; it is easy to start and is guaranteed to be as satisfactory as the old style Page Engine—the smoothest and most dependable of all farm engines.

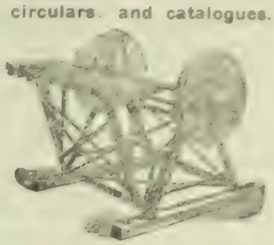
You will find a Page Engine to suit your power requirements—note the prices.

1½ H.P. "Make & Break" Gasolene.....$45.00
1¾ H.P. "Make & Break" Gasolene.....50.00
5 H.P. "Make & Break" with Ignitor Kerosene and Gasolene.....$145.00
1½ H.P. with pump Jack attachment Gasolene $48.00
3 H.P. "Make & Break" with Ignitor Kerosene and Gasolene.....$89.00
7 H.P. "Bake & Break" with Ignitor Kerosene and Gasolene.....$190.00

Trucks $8.00 to $10.50 extra. Freight paid to your station.

Write us for special circulars and catalogues.

IT'S A FINE STRONG FRAME.



That's what one of our customers says about the Page Wood Sawing Machine, and that's why it is a favorite with farmers everywhere. It's built to last, but what's just as essential it is most convenient. The interchangeable pulley and balance wheel—the Tilting Table with roller at one end to facilitate the handling of long poles are desirable features.

We make it in big enough quantities to get the price way down:

NO I. Wood Saw Frame—3 ft. 6 in. between blade and wheel $24.00
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22 in.....$4.25
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30 in.....$7.50
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MOTOR SPIRITS, KEROSENE AND GASOLENE.

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have stood the test of hard experience. They are thoroughly reliable and at attractive prices:

Baby Grinder.....5½ inch plates 12.50
Page Grinder.....8 inch plates 30.00
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Freight Paid.

Write for our big general Catalogue—it contains a full list of the many things we have for the farm—and on all of them we quote you money saving prices.

THE PAGE WIRE FENCE COMPANY, Limited, 45 Dock Street, ST. JOHN, - - N. B.

Preparedness for Now and After the War

THE KEY NOTE OF THE

SHORT COURSES

AT THE

College of Agriculture, Truro, N.S.

FREE to ALL students of the Maritime Provinces—

Farmers, Farmers' Sons, Wives and Daughters—

No age limit, from sixteen to over seventy. Equal Privileges for both sexes.

FROM

Jan. 2 to 11

YEAR 1917

Over 250 students attended last year. Additional attractions should bring more in 1917. The extra special attraction will be the series of lectures and demonstrations, during the first week, by Dr. C. A. Zavitz of Guelph, America's greatest crop expert.

MEN'S SHORT COURSE

Instruction in all branches of Animal and Field Husbandry, Farm Management, Veterinary Science and Allied Agricultural Sciences. The College staff will be assisted by leading experts from the Maritime Provinces and Ontario. Included will be representatives of the Dominion Dept. of Agriculture and the New Brunswick and P. E. Island Departments as well.

COURSE FOR WOMEN

Instruction and demonstrations in Dairying, Poultry Husbandry, Gardening and Domestic Science. Given in the beautiful and spacious class rooms for Women in the new Science Hall.

This course will be extended into a six weeks course if there is sufficient demand.

For particulars write to

M. CUMMING, B. A., B. S. A.,
Principal of College of Agriculture,
TRURO, N. S.

Unique opportunity for the busy farmer to get in touch with agricultural education in the shortest possible time.

Special excursion rates on all Maritime Province Railways and on the Boats from Prince Edward Island.

BRITAIN'S FORESIGHT SAVES WORLD FROM BIG INCREASE IN THE PRICE OF RUBBER PRODUCTS

The beneficial results accruing to the sagacity and farsightedness of the British Government in its promotion of the rubber industry and its subsequent "friendly" cornering of the crude rubber market are just now making themselves manifest in the manufacturing end of the industry. With other staple products soaring in price, and the consumer faced on every side with the augmented cost of raw materials, it is gratifying to know that one article of common use, at least, is not only not increasing in price, but has decreased even under the extreme pressure of war orders.

When Great Britain began the fostering and financing of rubber plantations in 1893, the rubber world did not stand aghast, but smiled cynically. South America—Brazil, to be exact—was then producing practically all of the world's supply, and the rubber, crude indeed, that was coming from the wild trees of that country, was considered quite enough. Great Britain foresaw conditions, however, and aided the establishing of plantations in her tropical colonies, with the result that when the motor industry and affiliated and allied manufactories demanded an increased supply Great Britain was there with the product.

Today South America is producing about the same quantity of crude rubber and it constitutes only 23 per cent of the world's supply. While the United States uses about 50 per cent of the rubber of the world, over 75 per cent of the crude rubber is marketed and controlled by Great Britain.

In 1910 the demand for rubber began to increase materially. The world's production, both wild and plantation, for that year was 70,500 tons, and the cost three dollars a pound. The estimated crude rubber to be used in 1916, based on previous years, will be approximately 202,000 tons, put to varied uses, yet the price is now between 60 and 70 cents a pound—just about half what it was at the beginning of the war.

Such conditions are in a measure a godsend to the consumer—to the man who walks and wears rubbers and overshoes; as well as to the man who ues the rubber for his motor car tires. And the rubber-wearing individual can thank the British Government for this. While Britain has just given a single order for 2,000,000 pairs of hig length rubber boots for her soldiers, taking 14,000,000 pounds of rubber, and other materials, still the price is kept down by that mysterious force known as "government control."

In the meantime that other staple—leather—has increased in price since the war started, until today a single cow hide is worth as much as was paid for the whole cow a few years ago. This is due in a large measure to the quantities of leather used for the army, the cutting-off of the European supply, which came largely from Russia, and other quickly recognized factors, including the fact that there is no "government control" concerned.

With leather up and rubber down it is naturally following that rubber is fact becoming a substitute for leather. With winter and the slushy weather setting in the man in moderate circumstances finds an opportunity to save the costly leather of his boots—so quickly ruined by water, and particularly snow water—by wearing rubbers and overshoes, that, thanks to the British Government, cost little or no more than formerly.

Whatever increase there may be in the cost of rubber goods, slight as it is, is due solely to the chemicals and fabrics which enter into the manufacture and also the higher prices paid to labor. So it would appear that this winter—thanks to Britain's foresight—the patriotic man will wear humble goloshes to save the costly leather of his shoes.

CANADA

NATIONAL SERVICE

PUBLIC NOTICE is hereby given under the authority of the "War Measures Act, 1914," that during the first week in January, 1917, an inventory will be made by the Post Office Authorities, of every male between the ages of sixteen and sixty-five, residing in Canada.

National Service Cards and addressed envelopes for their return to Ottawa have been placed in the hands of all Postmasters for distribution amongst the persons required to fill in such cards. Every male person of the prescribed ages is required to fill in and return a card enclosed in an envelope within ten days of its receipt.

Any person who fails to receive a card and envelope may obtain the same upon application to the nearest Postmaster.

R. B. BENNETT,
Director General.

Ottawa, 15th December, 1916.

THE NATIONAL SERVICE CARD

1. What is your full name?..... 2. How old are you?.....years.

3. Where do you live? Province.....
4. Name of city, town, village or Post Office .....
   Street..... Number.....
5. In what country were you born? - - .....
6. In what country was your father born? .....
7. In what country was your mother born? .....
8. Were you born a British subject?.....
9. If not, are you naturalized?.....
10. How much time have you lost in last 12 months from sickness? .....
11. Have you full use of your arms?.....
12. Of your legs?..... 13. Of your sight?.....
14. Of your hearing?.....
15. Which are you—married, single or a widower? - .....
16. How many persons besides yourself do you support? .....
17. What are you working at for a living?.....
18. Whom do you work for?.....
19. Have you a trade or profession?..... 20. If so, what?.....
21. Are you working now?..... 22. If not, why?.....
23. Would you be willing to change your present work for other necessary work at the same pay during the war?.....
24. Are you willing, if your railway fare is paid, to leave where you now live, and go to some other place in Canada to do such work?.....

GOD SAVE THE KING

MARKETING EGGS THE RIGHT WAY

When the pullets begin to lay during the fall, small eggs are abundant. In order to secure the best results upon the egg market the eggs must be graded carefully on the farm, placing the small eggs in separate crates or in certain definite layers if only individual crates are to be shipped. Each crate is labeled according to its contents. If the grading is done carefully and honestly, and the package marked according to contents, a satisfactory price will usually be received for the large eggs and a fair price for the smaller ones. In no case should brown and white eggs be marketed in the same tray. If the shipment is so small that only one case is to be marketed, the brown eggs should be put together and the white ones together and the grades so marketed.

Wholesale egg buyers also report a loss to shippers from carlessness in handling the crates. Failure to use well-nailed crates, new fillers and a cushion at top and bottom are three factors which cause much loss. Before packing the eggs the crate needs to be carefully looked over and renailed where necessary. The bottom of the crate is cushioned before packing the first layer of eggs, a thin layer of eggs, a thin layer of excelsior being evenly distributed. Only new substantial fillers which have not lost their rigidity and are strong should be used. When the crate is filled with eggs the top is cushioned with excelsion or newspapers and the cover is nailed securely on each end, but not in the middle.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, DECEMBER 19, 1916. Number 6.

Patriotism---Not Production, Needed.

An Important Open Letter

To The Minister of Militia,
Hon. A. E. Kemp, Ottawa.
Dear Sir,

Two years ago last August, The Maritime Farmer fired the first shot of what was later designated a "Patriotism and Production" campaign.

The Maritime Farmer pointed out to its readers the need for tilling every available acre in the Maritime Provinces.

It suggested that Great Britain, before the close of the present war, would require every pound of farm produce that could be raised.

The appeal directed the attention of farmers to the probability that the crop of 1915 would be used to feed the men who planted it, in 1916, not in their native land but in the trenches of France and Flanders.

You know, Sir, the truth of that prophesy.

Well, the farmers of the Maritime Provinces responded in 1915 with a crop that proved a record breaker. They did their share to increase production.

Later these same farmers saw their sons leave the farm to fight for Canada. They have gone from the farms of eastern Canada, whole families of them, two, three, four or more and fathers and mothers, dry eyed and stout hearted have faced the farm problem.

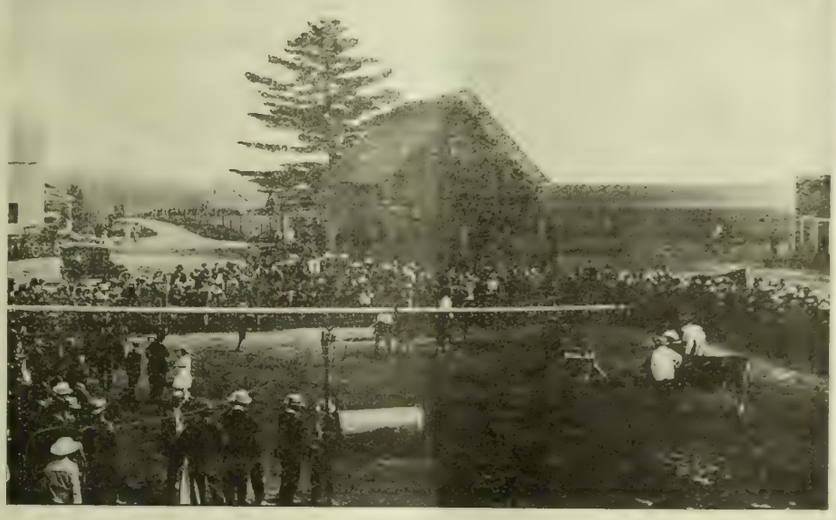
Many farm homes in these parts, Sir, have been saddened by the deaths of their all. Only sons, and in some cases, all the sons of parents have died heroically in defence of their native land.

Unwisely, the Maritime Farmer believes, farm owners, in many cases, have abandoned their holdings to go to the front and do "their bit',, leaving weeds to flourish, where life giving crops once prevailed.

The Maritime Farmer was only one of all the farm papers in Canada to support, "Patriotism and Production". Freely and cheerfully has the farm press of Canada advocated larger yields, and as we have intimated the response has been generous.

Yet, there is in the land a cry against high cost of living and an agitation against farmers, accused of holding stocks. An unjust accusation prevails, we submit, so far as it is directed against those who have denuded their farms of man power, in order that the Canadian forces might be strengthened.

You can't have production if you can't get men. You can't have men on the farm if your sons lie buried on the battlefields of Europe.



FARMERS' EXCURSION TO EXPERIMENTAL STATION, FREDERICTON.
A number of the visitors are here listening to a live stock address and demonstration by Prof. E. S. Archibald, Dominion Animal Husbandman.

And to what does this all lead? To the consideration of conditions in Halifax, the military centre of Canada, which are a disgrace to this country and a outrage on the feelings of the farmers who have made such heroic sacrifices in this war.

You, Sir, have just assumed office. You are one of the leading business men of Canada. You are not afflicted with the "military bug" as they have it in Halifax. You are not a victim of red tape, nor a man unable to appreciate real merit and estimate real manhood.

The Maritime Farmer would therefor direct your attention to matters which are subjects of common street gossip in the Maritime Provinces and matters of such weighty import to Canada, that we believe you will probably rectify them with as little delay as possible.

For two years the Halifax garrison has been officered by men who have, in some cases, been receiving military training for over twenty years, at the expense of this country.

The public is convinced that many of these officers have not even offered for overseas service, and the Maritime Farmer has been informed that some of them have even refused to go when overseas positions have been offered them.

The public believes that men recruited from the farms of this country, where they are so badly needed at this time, are being used by these same officers as "flunkies."

That is to say, these men who have enlisted to the detriment of the farm industry are required to drive cars, shovel snow, mow lawns and perform other menial duties for men whose courage is very gravely questioned, whether fairly or unfairly, the Maritime Farmer cannot say. But the fact is there and the public are imputing to these officers motives which suggest that the public is tired of the whole show.

The public has convinced itself that in these times when men from the farms of Canada are dying by scores, that the garrison of Halifax could be better employed in the avocations they left. particularly if farm trained, than in dancing attendance on these home defence officers in Halifax.

The public is convinced that many of these officers, who are

engaged in business in Halifax city, are not only receiving pay from the department of which you are the head, but that they are devoting at least a portion of the time for which they are paid, to their own private business interests. In other words, it is common gossip, that some of these officers, are grafting at a time when graft should not be tolerated in this land.

The public also believes that there are in the city of Halifax ministers of the gospel, who, while drawing salaries from their churches, are also receiving pay from your department. In a word, the public is convinced, that there is in Halifax a reign of pure, unadulterated graft, which should bring the blush of shame to the faces of those participating in it.

And there is another feature of the situation to which we would direct your attention, Sir.

There has arrived, are arriving and will arrive in Canada for some time, scores of officers, who have suffered on the field of battle. Many of these men, Sir, are unable to secure positions, commensurate with the sacrifices they have made. Many of them are on C. E. F. pay, while these Halifax officers have been holding sinecures for two years.

The Maritime Farmer would suggest to you that the officers of the Halifax garrison be displaced and their duties given to men from the firing line. It is more than a suggestion of this paper, it is a demand by the fathers and mothers of the men at the front, that honor be bestowed where honor is due.

When Canada asked men to enlist, she promised them the best she had, when they returned to their native land. Your department, Sir, has not carried out these promises, but the Maritime Farmer looks to you to remedy this defect.

Canada asked for "Patriotism and Production". The farmers of Canada have answered by placing both at your disposal. The farmers, in turn, ask that you insist upon some measure of patriotism in connection with the administration of the garrison at Halifax. No officer should be engaged there, who is not willing to go overseas, or who has not been there.

Men from the front should have the positions that are offering there. Rankers, coming from the battlefields. claim that they do not get sympathy from those who have not seen action. There is in the public estimate nothing in common between a man who has not been willing to enlist for overseas and a man who has been there. We think, Sir, you will appreciate the men's point of view.

In conclusion, let us say, that if you follow this suggestion, you will do more to stimulate recruiting than by following any other course open to you. Halifax is a glaring, blinding notification to the young of Canada, "All hope abandon, ye who have fought and bled."

An end to it, please, Mr. Minister of Militia. It will be to commence your administration with an act that red tape supports; the end of a system which all decent men and women abhor; the performance of a simple act of justice to men from the front; and the redemption of a sacred promise of Canada to her real soldier boys.

Frost Injury--Different Ways in Which Apple Trees are Affected

During the past twenty-seven years much experience has been had at Ottawa with frost injury to fruit trees, and the observations which have been made during that time and the conclusions drawn and recommendations made are now summarized, in the hope that much injury will be prevented by adopting the best methods. It would appear that there are at least eleven distinct forms of winter injury.

If one could make an accurate estimate of the number of fruit trees which have been winter killed in the colder parts of the different provinces of Canada the figures would be astounding; trees that were killed just when they were beginning to bear fruit; and trees which were in their prime and bearing bountiful crops, all have suffered. This terrible destruction from winter has caused great discouragement among the people and has been one of the chief causes of the slow development of the fruit industry in the colder parts of Canada.

Much of this loss could have been avoided if the hardiest trees only had been planted, but how few there are who knows the details connected with the establishment and maintenance of an orchard and who know there is almost or quite as much difference in the hardiness of varieties of fruits as there is between the hardiness of the tenderer and the hardier of vegetables. All farmers have learned by observation that with a very slight frost potato crops will be killed, but that it will take a much lower temperature to kill a cabbage. But the cause of death in fruit trees still continues to be a very mysterious thing to most farmers who, when a tree has been root killed, for instance. sees it leaf out and bloom but eventually wilt under his very eyes during the summer without any apparent reason. Unfortunately this lack of knowledge on the part of the farmer has been taken advantage of by unscrupulous men and farmers have been urged to buy the varieties of fruits which appeal to them most strongly in the coloured plate or from the glowing description given by the agent. Of late years our best nurserymen seem to be impressing upon their agents the importance of offering only those varieties suited to the district in which they are sold and we have been very pleased to have these agents call at the Experimental Farms and get what information could be given them on the fruits most suited for the districts they were working in. For a long time it was not known what varieties of fruit were hardy in the different parts of Canada, but experience has taught which will succeed and the results of this experience have been recorded. With the literature now available and the information which may be obtained by applying to the proper authorities, there is no reason why any one should plant varieties which will not succeed with him, provided he has the proper soil in which to grow them and gets good trees and looks after them properly.

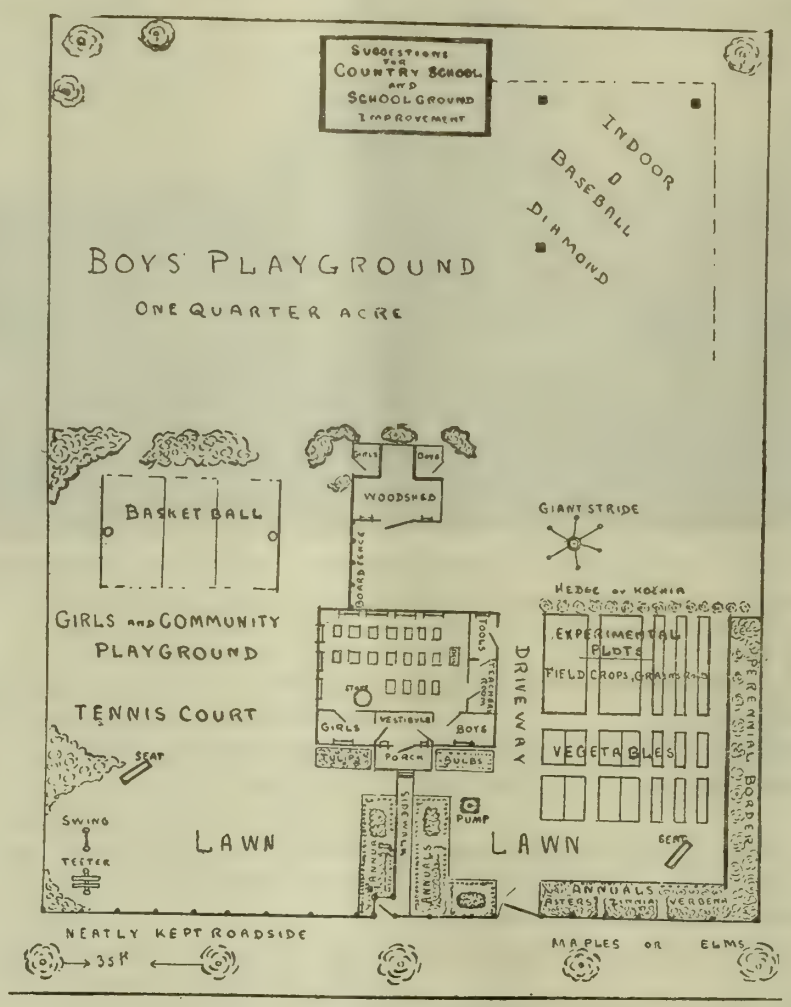


Diagram of West Royalty School, P. E. I.

The forms of frost injury which will be discussed here are, root-killing, bark-splitting, trunk-splitting, sunscald, trunk or body injury, crotch injury, killing-back, black-heart, discoloration of sap wood, killing of dormant buds, killing of swollen buds.

Root-killing.—Root-killing is caused by the exposure of roots to severe frost and by the alternate thawing and freezing of the roots. It is most prevalent in winters when the soil is dry and when there is little or no snow. Roots are in many cases tenderer than the tops and are sometimes killed when the tops remain uninjured. It is sometimes desirable to have trees on their own roots as these may be hardier than the stock. Some valuable experiments were conducted by the Nebraska Agricultural Experiment Station to determine the conditions under which root-killing occurred. Trees were planted in boxes 2 feet square and 18 inches deep, each box having 25 young apple trees. Six boxes were left outside about the middle of December with soil having different percentages of moisture. One box was covered with a mulch of straw about 4 inches deep. One was kept covered with about 4 inches of snow whenever snow fell. The remaining boxes were left without any covering, and snow which fell being swept off. The trees were examined in February when out of 25 apple trees set in the unprotected box containing 10.4 per cent of moisture the roots of 20 trees were dead and the remainig 5 uninjured. In the unprotected box containing 15.2 per cent of moisture, 19 trees were dead and 6 injured. In the box with a moisture content of 19.8 per cent, 3 were dead, 10 injured, and 12 uninjured. In a box with 25.6 per cent moisture, 8 trees were dead, 4 injured, and 13 uninjured. The box covered with the straw mulch contained 16 per cent of soil moisture and none of the trees were dead in this box, and but 7 injured. In the box covered occasionally with snow and containing 15.8 per cent moisture 7 were dead and 8 injured. Not a root was injured in a box stored in a cool, dry eave, though it contained but 10 per cent soil moisture. These figures are very striking. The fact that the trees kept in a cool, dry cave were uninjured was believed by the experimenters to prove that cold as well as dryness was necessary to cause the death of the roots, which is borne out by our own experience. The fact that the injury was found to be so great in the dry soil would appear to show that the dry, cold air entering the soil killed the roots and that in the soils which were moist even thawing and freezing would not destroy them. It is possible that the lower temperature of the dry soil had much to do with the killing. As the soil in some parts, and provinces, of Canada is usually moist in the autumn and further drying out is usually prevented by a covering of snow, root-killing does not often occur, there having only been four times during the past twenty years when there has been much injury. This infrequency of root-killing is, however, liable to make fruit growers careless, and a time comes when an orchard is just in its prime when the trees are swept out by root-killing to the owner's great disappointment and discouragement. What, then, are the preventives of root-killing

At the Central Experimental Farm, Ottawa, many trees were root-killed in the winter of 1895-6, a winter when there was little snow. At that time cover crops were not used to any extent and the soil at the farm was bare. Since that time great care has been taken to have a cover crop in the orchard before winter sets in. This cover crop in itself protects the roots of the trees and helps to hold the snow

(Continued on page 148)

The Maritime Poultry Show

War time conditions are affecting practically every industry in Canada. Situated, as we are in the Maritime Provinces, close to the sea boards, translantic trade routes starting points, practically every available building of fairly large dimensions is in the service of the military authorities for the quartering of troops held in readiness for quick transit across to the battle fields of Europe.

The commodious Winter Fair Building in Amherst, N. S., is one of a number thus used. Consequently the Annual Horse Show and the Maritime Winter Fair of 1916 were both cancelled. This is not to the best interests of our live stock industry.

One of the big centres of attraction at the Maritime Winter Fairs was the poultry department where birds from the three provinces met in annual competition under the auspices of the Maritime Poultry Association and the Maritime Stock Breeders' Association.

ST. HILARE CREAMERY, MADAWASKA CO., N. B.

This Creamery is at present being operated by the Federal Dairy Division as a Demonstration Creamery.

In the City of Moncton each year enthusiastic poultry men were wont to hold a poultry show, where birds from various sections of the province were brought into competition. The show was usually quite successful, and as a commodious space for show purposes was available in one of the Record Foundry's large warehouses, the Maritime Stock Breeders' Association decided to hold their big poultry show in Moncton.

A prize list, similar to the prize list of former shows was prepared, and the poultry men responded with a creditalbe number of entries in practically every section with the exception of the dressed poultry class, where only a very small number of entries of rather inferior qual'ty was shown.

In fact no red ribbons were awarded in the class, a blue or second prize ribbon being considered enough or more than enough for the best specimens displayed. In other years the display of dressed poultry was of such dimensions that some of the largest buyers in Montreal thought it worth while to send representatives of their respective firms to buy the entire lot. The enthusiasm of the ladies in the vicinity of Amherst and Maccan and other sections in Cumberland County was sadly missed in this year's dressed poultry show.

George Robinson of Ottawa placed the awards in the open classes and Messrs. Seth Jones and J. P. Laundry placed the ribbons in the Utility Class.

The birds throughout the whole show were in excellent feather, in vigorous condition and had been carefully bred and selected, and best of all there seemed to be a large percentage of workers among the cooped as indicated by the number of eggs daily gathere by the attendants.

White Leghorns led in point of numbers. Barred Rocks, Buff Orpingtons and White and Silver Wyandottes also made a strong showing in their respective classes. There was also a good showing of Reds, Andalusians, Dorkings, Hambugs and Games.

Following is a complete list of prize winners in the respective classes.

Open Classes

Ancona cock—1, John P. Bain.

Ancona hen—1, John P. Bain.

Ancona cockerel—1 and 2, Seaman & Stewart.

Ancona pullet—1 and 2, Seaman & Stewart.

Andalusians, cock—1 and 2, F. B. Chapman.

Andalusians, hen—1, F. B. Chapman; 2, Jas. T. Dustan, Moncton.

Andalusians, cockerel—1, Jas. T. Dustan; 2, Geo. McEchron, Moncton; 3, Geo. McEchron.

Andalusians, pullet—1, F. B. Chapman; 2 and 3, Geo. McEchron; 4 and 5, F. B. Chapman; 6, Jas. T. Dustan.

Brahama, Light, cock—1 and 2, Day Bros.

Brahama, Light, hen—1 and 2, Day Bros.

Brahama, Light, cockerel—1, Chas. H. Smyth; 2, Day Bros.

Brahama, Light, pullet—1, Day Bros.; 2, Chas. H. Smyth.

Brahama, dark, cock—1, Day Bros.

Brahama, dark, hen—1, Day Bros.

Brahama, dark, pullet—1 and 2, Day Bros.

Black Spanish White Face Cockerel—1, John P. Bain.

Black Spanish White Face Pullet—1, John P. Bain.

Buckeyes, Pullet—1 and 2, Scott & Warren.

Campines, Golden Hen—1, Louise C. Brown.

Campines, Golden Cockerel—2nd no 1st awarded—Louise C. Brown.

Campines, Golden Pullet—1, Louise C. Brown.

Campines, Silver Cock—1, Louise C. Brown.

Campines, Silver Hen—1, Louise C. Brown.

Campines, Silver Cockerel—1, W. A. Balser; 2, W. A. Balser.

Campines, Silver Pullet—1, Louise C. Brown; 2, W. A. Balser.

Cochin, Buff Cock—W. A. Balser.

Cochin, Buff Hen—1, W. A. Balser.

Cochin, Buff Cockerel—1, W. A. Balser.

Cochin Buff Pullet—1, W. A. Balser.

Cochin Partridge—1, Day Bros.

Black Orpington cock—1st and 2nd, W. S. Swetman, Moncton, N. B.

Black Orpington hen—1st, W. S. Swetman; 2nd, Mrs. C. W. Fawcett, Sussex, N. B.

Black Orpington cockerel—1, W. A. Balser, Moncton, N. B.

Black Orpington pullet—1, W. A. Balser; 2, Mrs. C. W. Fawcett.

Blue Orpington cock—1, Watson Lutz, Moncton; 2, W. A. Belser.

Blue Orpington hen—1 and 2, W. A. Belser; 3, Watson Lutz.

Blue Orpington cockerel—1, Watson Lutz; 2, W. A. Belser.

Blue Orpington pullet—1 and 2, W. A. Belser.

Barred Plymouth Rock cock—1, Thos. Lathan, Alma, N. S.; 2, Kentville Poultry Yards, Kentville; 3, Percy Carey, Yarmouth.

Barred Plymouth Rock hen—1, Percy Carey; 2, Watson Lutz; 3, Kentville Poultry Yards.

Barred Plymouth Rock cocgerel—1, Kentville Poultry Yards; 2 and 3, Watson Lutz.

Barred Plymouth Rock pullet—1, Kentville Poultry Yards; 2, Watson Lutz; 3, Percy Carey.

White Plymouth Rock cock—1, Watson Lutz; 2, C. B. Chapman, Amherst.

White Plymouth Rock hen—1, C. B. Chapman; 2, J. L. Curran, Charlottetown.

White Plymouth Rock cockerel—1, C. B. Chapman, Amherst; 2 and 3, Odbur James, Sunny Brae; 4, Watson Lutz; 5 and 6, Odbur James.

White Plymouth Rock pullet—1 and 2, Odbur James; 3, Watson Lutz.

Buff Plymouth Rock cock—1, H. D. Thompson, Stellarton.

Buff Plymouth Rock hen—1. H. D. Thompson; 2, J. G. Stockford, Moncton, N. B.

Buff Plymouth Rock cockerel—1. H. D. Thompson; 2, J. G. Stockford.

Buff Plymouth Rock pullet—1, J. G. Stockford; 2, H. D. Thompson.

Partridge Plymouth Rock cock—1, Thos. Reardon, Sussex.

Partridge Plymouth Rock hen—2. Thos. Reardon, Sussex.

Speckled Sussex cock—1, Seaman & Stewart, Moncton, N. B.

Speckled Sussex hen—1 and 2, Seaman & Stewart.

Speckled Sussex cockerel—1 and 2, Seaman & Stewart.

Speckled Sussex pullet—1 and 2, Seaman & Stewart.

White Wyandotte cock—1 and 2, Samuel Steeves; 3, Kentville Poultry Yards.

White Wyandotte hen—1, 2, 3, 4, Samuel Steeves; 5, B. J. Sutton, Glace Bay, N. S.; 6, Kentville Poultry Yards.

White Wyandotte cockerel—1, 2, 3, 4, 5, Samuel Steeves; 6, Geo. W. Brown, Fredericton.

White Wyandotte pullet.—1, 2, 3, 4, Samuel Steeves; 5, Geo. W. Brown; 6, Samuel Steeves.

Leghorns White S. C. Cock—1, Chas. Johnson, North Sydney; 2, J. N. Ferguson, Fredericton; 3 and 4, Chas. Johnson; 5, Geo. Thompson, Moncton, N. B.; 6, Odbur James.

Leghorns White S. C. hen—1, J. N. Ferguson; 2, Odbur James; 3, Chas. Johnson; 4 and 5, J. N. Ferguson; 6, Ernest Craze, Port Williams.

Leghorns White S. C. cockerel—1, 2, 3, 4, Chas. Johnson; 5, J. N. Ferguson; 6, W. J. Pickard, Charlottetown.

Leghorns White S. C. pullet—1, W. J. Pickard; 2 and 3, J. N. Ferguson; 4, 5, E. F. McKim, Amherst; 6, Odbur James.

Leghorns White R. C. cock—1, Day Bros., Moncton, N. B.; 2, Scott & Warren, St. John, N. B.

Leghorns White R. C. hen—1, Day Bros.; 2, Scott & Warren.

Leghorns White R. C. cockerel—1, Scott & Warren; 2, Walker & McMullin, Truro, N. S.

Leghorns White R. C. pullet—1, Walker & McMullin; 2, Scott & Warren.

Leghorn Brown S. C. Cock—1, R. Carter, Halifax, N. S.; 2, Scott & Warren.

Leghorns Brown S. C. hen—Scott & Warren; 2, R. Carter.

Leghorn Brown S. C. cockerel—1, 2, Scott & Warren.

Leghorn Brown S. C. pullet—1 and 2, Scott & Warren.

Leghorn Brown R. C. cock—1, Scott & Warren.

Leghorn Brown R. C. hen—1 and 2, Scott & Warren.

Leghorn Buff S. C. cock—1, Alex. Donold, Moncton, N. B.; 2, Day Bros.

Leghorn Buff S. hen—1, Alex. Donald; 2, John P. Bain, St. John, N. B.

Leghorn Buff S. C. cockerel—1 and 2, Day Bros.

Leghorn Buff pullet—1, Alex. Donald; 2, John P. Bain.

Leghorns Black, S. C. cock—1 and 2, Day Bros.

Leghorns Black, hen—1 and 2. Day Bros.

Leghorns Black, cockerel—1, Day Bros.; 2, John P. Bain; 3, Walker & McMullin.

Leghorns Black, pullet—1, Walker & McMullin; 2, John P. Bain; 3, Walker & McMullin.

Winners in Live Utility Poultry

Pair Wyandotte Cockerels—1. Samuel Steeves.

Pair Wyandotte pullets—1. Samuel Steeves; 2, Walker & McMullin.

Pair Golden Wyandotte cockerels—1, Lloyd A. Peel, Amherst, N. S.

Pair Golden Wyandotte pullets—1, Lloyd A. Peel.

Pair Silver Wyandotte cockerels—1, S. E. McKie, Moncton, N. B.

Pair Buff Wyandotte cockerels—1, F. H. Morine, Port Williams.

Pair Buff Wyandotte pullets—1. F. H. Morine.

Pair Barred Plymouth cockerels—1. Samuel Steeves; 2, Walker & McMullin; 3, Mrs. Evans Kyle, Sussex, N. B.

Pair Barred Plymouth pullets—1. Walker & McMullin; 2. Mrs. Evan Kyle; 3. Samuel Steeves.

Pair White Plymouth Rock cockerels—1, Albert Boswall, French Fort, P. E. I.; 2, Watson Lutz.

Pair White Plymouth Rock pullets—1 and 2, C. B. Chapman; 3, Watson Lutz.

Pair Buff Orpington cockerels—1 and 2, C. B. Chapman; 3. E. S. Tracey, Halifax, N. S.

Pair Buff Orpington pullets—1 and 2, C. B. Chapman; 3. E. S. Tracey.

Pair Orpingtons A. O. V. pullets—1. W. S. Swetman.

Pair Rhode Island Reds. S. C. cockerels—1. Kentville Poultry Yards.

Pair Rhode Island Reds. R. C. pullets—1. Seaman & Stewart.

Pair Brahamas. cockerels—1 and 2. Chas. H. Smyth, Moncton, N. B.; 3, Day Bros.

Pair Brahamas. pullets—1. Day Bros.

(Continued on page 161)

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. When paid in advance 80 cts. Persons taking advantage of the 80 cent rate are only entitled to it by paying in advance each year. When subscription gets in arrears, $1.00 per year will be charged. Subscribers are requested to bear this in mind. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

DECEMBER 19, 1916.

DATES OF ISSUE

January	9-23
February	6-20
March	6-20
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May	8-29
June	12-26

BOOST A GOOD THING

The Secretary of The Sussex & Studholm Agricultural Society, an agricultural Society that encourages its members to buy their fertilizers co-operatively by taking charge of the ordering and distribution of the goods, handed us his order file with the request that we glance over the individual orders, of which there were over sixty.

The Society's membership includes a band of prosperous dairymen who have large quantities of stable manure and consequently the various orders were for small quantities of goods, as many of these farmers only use just a little to give their crops a quick start—and depend on stable manure to do the rest.

These farmers have been buying Nitrate of Soda, Sulphate of Ammonia, Acid Phosphate, Guano, Tankage and in pre war times Muriate of Potash, and doing their own home mixing at a saving from $10.00 to $15.00 per ton. We were particularly impressed with some of the orders. One order sent in by a Mr. Jas. Small read: "Please order for me enough chemicals to make up 700 pounds to analyse the same as mixture for which I bought chemicals from you last year." We turned up Mr. Small's 1915 order and found that his order had only amounted to 400 pounds. The moral gleaned from this is clear. Mr. Small bought chemicals and did his own mixture in 1916 and was so well satisfied that he nearly doubled his order for 1917. But listen, that was not all. He ordered enough chemicals in addition to the above to make 500 pounds of another analysis for his grain—just to try it out. This man, like many more of the members of this Society, are learning about the plant food requirements of their various crops and the part each food element plays in plant growth.

As a proof that Mr. Small did not hide his light under a bushel, we observed the following wording on three or four other orders:—

"I wish to become a member of the S. & S. Agricultural Society, for which I enclose my membership fee which also includes a year's subscription to the Maritime Farmer for the ensuing year. Please order for me enough chemicals to make X Y Z pound s of same analysis as you procured for Mr. Jas. Small of this place last year. I will do my own mixing.

Mr. Small was satisfied with the saving in purchase price and with the results procured in crop yields. His neighbors also came, saw and were convinced to the extent that they too wished to share in the benefits accruing from co-operation.

When you discover a good thing in agriculture, tell your neighbors so that they too, like you, may benefit.

The Sussex & Studholm Agricultural Society co-operates with a large number of other progressive Societies in the province of New Brunswick that have clubbed together under the corporate name of New Brunswick Agricultural Societies United. Through this central body the purchase of the fertilizer requirements of the respective societies is made. The assembled orders amounts to a very respectable proportion, and the larger wholesale agencies are glad to quote their very lowest terms.

SHORT COURSES AT TRURO

We would direct the attention of all our Maritime Province readers to the advertisement appearing elsewhere in this issue of the Maritime Farmer of the Short Courses in Agriculture to be held at the College of Agriculture, Truro, Jan 2-11, 1917. These courses are free to students from all the Maritime Provinces. Instruction is provided both for old and young, and for men and women. The program is a comprehensive one that should attract the interest of everyone interested in agriculture in Nova Scotia. The key note of the course is "preparedness for now and for after the war." A booklet has been issued in which a full description of the course is given.

We publish the contents of the booklet on the following page. Peruse it carefully and make up your mind to go. If you would like to have a copy or copies of the booklet to hand to your friends, write to Principal Cumming at Truro.

DOWN WITH OLEO

The Women's Council of Peterboro, Ont., is issuing petitions to women's councils in other parts of Canada, asking that they all use their influence with the government to allow the manufacture of oleo margerine and also the sale of skimmed milk, labelled as such.

We are glad to note that the St. John Women's Council refused to support the resolution. We do not want oleo margerine on the Canadian markets. Its sale is detrimental to the development of the dairy industry and every farmer and dairyman in the land should raise their voices in protest against any movement tending towards the supplanting of the dairy industry in any way or form.

The sale of skim milk labelled as such and at a reasonable price may be permissible, but the present day tendency where there is no supervision of the milk supply is towards the lowering of the legal standard in butter-fat content, to the extent that unsuspecting customers are occasionally dealt out a sample of skim milk at whole milk prices.

Not long ago a lady asked a certain milk vendor if he could sell her a pint of cream. The vendor went to his team where he was seen pouring the cream off several milk bottles into a pint bottle and refilling the bottles from which the cream had been taken with milk from a can. We venture to say that whoever the customers were who received the bottles from which the cream had been replaced with milk, were not satisfied with the quality.

We believe every city, town and village where milk is vended should make arrangements for some inspection system, whereby the consumers would be protected from the wiles of dishonest vendors.

ARE YOU OUT OF SORTS?

If so, does it pay? No! for persons in such a condition are irritable with their "back up" and "a chip on their shoulders" looking for "the hat in the ring." This is not at all conducive to business harmony and co-operation—the fundamentals of efficiency and success—for there is "nothing improved by anger except the arch in a cat's back." Here's a good remedy: "Wear a smile on your face and a flower in your button-hole." Try it.

* * *

Despite the splendid winter weather we were experiencing on November 22nd when we wrote an article for our December 4th issue, our predictions of a much needed thaw came true.

The snow has melted, and even the good old St. John river that Jack Frost had so early sealed against navigation, is again we hear, free from ice.

The melting snows and a considerable fall of rain during the past two weeks has very materially helped to give new life to the brooklets, raise the rivers and fill the almost dry wells to the brim.

You may or you may not be a handy man with tools, but that is no reason why you should go about your work in a round about, time-killing, man-killing way. Make the work easier for yourself so you can have more time to devote to other things. There are many short cuts to effective work and a little brain work will help you. Plan that water supply for your live stock that we wrote about in the last issue of the Maritime Farmer. If you cannot do the work yourself, get some one who can do the work. As to financing the work, all we have to say is that where there is a will, there is always a way. Don't you think so too?

* * *

Are you putting forth every effort to conserve your heifer calves. Grow as many of them to maturity as you can. You will find ready sale for all you can raise at remnuerative prices. The days of low priced cattle is gone forever and a new era has dawned for the stock raiser. You will be well repaid for any efforts you put forth by better breeding, feeding and weeding.

* * *

The evident necessity for the strictest economy in the use of the ocean tonnage available for the supply of foodstuffs, as evidenced by the British Government's decision to appoint a food controller, has given rise to the hope that the production of intoxicating liquors, so much of the raw material for which not only has to be imported, but might instead be used for nourishing food, will be prohibited.

"'Tis a consummation devoutly to be wished."

Short Courses at the N. S. A. C.

Men's Short Courses

"Preparedness" and the necessity for it is the great lesson of the war. We should not fail to learn it. At the present time Canada is enjoying a period of unprecedented prosperity due to the employment of her labor and capital in the production of munitions and other goods required for the year. Farmers are reaping a part of this prosperity—the ones who were best prepared getting the biggest share. But this present prosperity is artificial. The day the war is over, it will cease. Then will come the era of the farmer, the producer of real wealth, whose position at this crisis in the history of Canada will be exalted as never before. Get ready for it. Be prepared. This is where an agricultural education counts. And this will be the purpose of the 1917 Short Course.

A War Time Short Course

Useful in times of peace, the short courses are more useful in times of war. They meet the educational needs of the farmer who, by reason of short labor conditions, can only get away for a brief time. To further help meet the difficult labor situation, the course for 1917 will be shortened a day, closing on Thursday of the second week instead of Friday. Moreover this reducing the course will offset any extra charge for board which, owing to war prices, may be made.

A Course for Everybody

The course is open to boys and men of all ages from 16 to over 70 and as in former years large numbers are expected, not only from Nova Scotia but from the other Maritime Provinces as well. Naturally a large attendance of farmers and farmers' sons of the country is anticipated, but in addition the attention of Clergymen and business men and professional men, who are interested in rural problems, is directed to the benefits they will derive from attending the short course classes.

The special extra attraction for 1917 will be the lectures and demonstrations in field crops and seed selection by C. A. Zavitz, of Guelph, recognized as the foremost authority on this subject in America. Dr. Zavitz has bred new varieties of oats and wheat and has improved old varieties to such an extent as to have produced enough extra crops in the province of Ontario to pay for the Agricultural College several times over. His services have been sought again and again at Washington and other prominent places. Not only is Dr. Zavitz a practical expert but he is a most inspiring teacher. His lectures will begin Wednesday morning, Jan. 3rd, and continue until Saturday afternoon Jan. 6th. It is to be hoped that many will come to the short course this year if f r no other purpose than to take in this series of lectures by America's greatest expert.

Never was the cattle and other live stock on the College Farm in such splendid condition for showing. Its an education in itself to see the cows and other stock and to study them critically in the judging pavilion as will be your chance at the Short course. Those great Holsteins including Victoria Calamity Clay that gave 22835 lbs. of milk in twelve months last year, and a big crop of calves and yearlings from these cows, that bid fair to beat their ancestors will all be there. Among the Ayrshires are several mature cows that have been producing over sixty pounds (twenty-five quarts) of milk per day, and a two year old, the third generation of College Farm stock, that with her first calf has produced fifty-four pounds of milk in a day. Then there is the new Ayrshire bull Jean Armour's Lotus Laddie of championship breeding, his dam Jean Armour being the first Ayrshire cow in the world to beat 20,000 lbs. of milk in a year, her actual record made at twelve years of age being 20,174 lbs. of milk and 774 lbs. of fat. A daughter of this cow Jean Armour 3rd, has just made the world's three old record, having produced in twelve months 21,938 pounds of milk and 849.18 lbs. of fat. Nor should anyone overlook the dual purpose Shorthorns, which, while giving only about half as much milk as these special dairy cows are, nevertheless, grand individuals of their class and well fitted to fill the niche where farmers want beef and milk combined. But we cannot tell the whole story in this short space. You should come and see the cattle and hear the story for yourself.

As in former years the College herds will, at Short Course time, be supplemented by drafts from the famous herds of the Retsons, the Blanchards, the Dickie's and others in the vicinity of Truro. It will be a great show, interesting in itself, but especially valuable to individual farmers and to representatives of Agricultural Societies who are aiming to select improved sires with which to develop the live stock of their communities.

The best collection of breeding hogs ever owned at the College Farm will be on exhibition. Especially noteworthy are the boars, one of which is considered by many to be the best of his breed in Canada. There are four of his daughters on the farm, spring pigs, that at date of writing average 300 lbs. each. They are models both for bacon and for the economical production of pork. W. R. Reek, Director of Agricultural Instruction for Prince Edward Island will assist the college staff in the subject.

The Live Stock Division of the Federal Department of Agriculture will unite with the College staff in putting on an attractive and valuable course in sheep husbandry. In addition to lectures on the care and selection and demonstrations on the judging of sheep, special attention will be given to improved methods of marketing wool, by followin which farmers in some communities of the province realized last season from five to cents per pound above the prevailing market prices.

Horses, which in former announcements claimed first attention, are here presented last for they are not moving so briskly as in years gone by. But market experts at Ottawa say that the future of horse breeding is of golden promise, provided, farmers breed only the best. Demonstrations and lectures along this line will be conducted at the short course. Horsemen will enjoy inspecting some of the magnificent individuals in the college stud.

Seed Fair

THE NOVA SCOTIA PROVINCIAL SEED FAIR will be held at the College on Tuesday, Jan. 9th. With a view to partially making up for the non holding of the Maritime Winter Fair and the Seed Fair in connection with it, a larger list of prizes than usual is offered at Truro this year. No matter from what part of the province you hail, write to the College for the prize list and plan to show some oats, or wheat, or other cereal or timothy or clover or turnip seed, or potatoes. If it is not your intention to show, you can still learn a great deal from the Fair and moreover it will afford a splendid chance for those who wish to buy i prov d seed.

More progress has been made in dairying in the last semi-decade than in any other line of farming in the province—and more money too. At the short course, instruction will be given in the foundation end of the business, the cow, and also in the manufacturing of her products. Besides the making of butter and factory cheese, special attention will be paid to home made cheese, cream cheese, part milk and part cream cheese, ice cream, etc. The testing of milk and cream and skim milk for butter fat will be included. Instruction in all these branches will be provided for both women and men.

Dairymens' Convention

The Annual Convention of the Nova Scotia Dairymens' Association will be held at the College on the 3rd and 4th of January. In addition to the regular proceedings of the Convention there will be a contest open to all the creameries of the province for the best butter. Prizes to the value of $350.00, including a $125.00 challenge trophy, will be awarded. The judging will be done by experts, who in addition to their judicial duties will be prepared to give instruction to any who may seek it.

Everyone should eat vegetables. They are an economical food, delicious, wholesome; their regular use prevents disease and fosters health. The food material they contain costs only one fourth or one fifth of the same material in meats. They are especially valuable when crisp, succulent, sweet, tender and juicy—as they are right from the garden, or next best from proper storage. To encourage the greater growth of vegetables, to teach how to grow the best quality, and to do this in respect to new kinds and varieties, as well as the old standards, is one of the main purposes of the Horticultural course. Combined with this will be instruction and demonstration in the canning of all kinds of vegetables and fruits—an art which almost brings summer conditions to the winter table.

Apples and other fruits come in the same catagory, but there is a bit more luxury added. Everybody likes them and should have them. Nor is there any reason why, with proper selection of varieties of apples and other fruit, they cannot be had almost every day of the year. Come to the Short Course and learn about varieties, how to prune trees to encourage large well colored fruit, how to keep off insects and diseases by spraying and other methods, and even how to graft.

Instruction in all phases of vegetable growing and fruit culture will be given by members of the College staff assisted by representatives of the Dominion Department of Agriculture and by successful growers from the province.

The orchardist in particular and the general farmer too are each year realizing the practical value of a thorough knowledge of the various insect pests and plant diseases. The Short Course will afford a great opportunity for any who are seeking this knowledge. Students may arrange for special instruction in the use of the microscope, which is necessary to a first hand knowledge of many of these pests. During the summer successful experiments have been conducted in the Province in the control of rot in potatoes and club roots in turnips and cabbages. Mr. P. A. Murphy, of the Division of Botany of the Federal Department of Agriculture who is an authority on diseases of the potato and turnip etc., will be the special instructor in this phase of the subject.

The ever increasing price of eggs and poultry has added to the attractiveness of the poultry industry. Poultry raising appeals particularly to small lot holders and to farmers who live near towns and cities where fresh eggs are in constant demand, but it is also a profitable business as a side line to dairying or beef raising or general farming, and should receive far more attention than is now given to it. A special feature of the 1917 course will be a consideration of the proper system of grading eggs for market with special reference to the working of the Canadian Egg Standard system which has been adopted by wholesale dealers in the largest centres of Canada. Instruction will be given in the art of making hens lay, fattening and dressing poultry for market, hatching and rearing chickens by natural methods and artifically, constructing poultry houses and organizing of the poultry business so as to obtain better prices.

What to do when your animals are sick, and better how to keep them from disease will be the essence of the Veterinary Science instruction. Added to this will be practical classes in the judging and care and management of horses. There will be no more instructive and valuable part of the course than this Veterinary Science, which will be given by Dr. J. A. Sinclair.

Several of the leading farm implement and gasolene engine manufacturers are planning to exhibit their machines and engines in the College at Short Course time. Arrangements are being made to bring a practical expert in gas engines to give practical instruction in the operation of these machines which are now being used so extensively by farmers.

In this brief outline we have not exhusted all that may be taken up in the course. Should there be any students wishing instruction in barn construction, bee culture, agricultural bacteriology, agricultural chemistry, or botany, provision will be made to offer special instruction. The student has only to make his wants known to the principal on his arrival when arrangement will be completed.

Women's Short Course

Owing to the increased space and other advantages afforded in the new Science Building, the 1916 Womens short course was easily the best one ever held at the College. The course for 1917 promises to be just as much better.

This course is free to all women and girls and our advice is to put your application in early before the list fills up, for there is a limit to the number of students we can accomodate.

The subjects will include Cooking, Dress-making, Dairying, Horticulture and Poultry. Besides these, lectures and demonstrations will be given in Laundry Work, Dry Cleaning, Short Cuts in Home Work, Modern Efficiency, Home Nursing, and Millinery. Some time will also be devoted to Invalid Cooking with particular attention to the necessary nourishment for patients suffering from various diseases.

Bring note books, pencils, aprons, and wear a short sleeved blouse or sleeve protectors. Come prepared to get as much out of the course as you possibly can and ask as many questions as you like.

If you wish to secure a boarding house let us know as early as possible. We plan to meet all trains and generally recommend that you engage a boarding house after arrival

(Continued on page 160)

FROST INJURY.—DIFFERENT WAYS IN WHICH APPLE TREES ARE AFFECTED

(Continued from page 144)

for further protection. The roots of trees in sod are also protected in the same way. The mulching of the ground about trees with straw or manure will also protect the roots from injury. Another reason why we have not been troubled with root-killing during the past twenty years at Ottawa is that practically all our grafted trees have been since that time grafted on crab apple roots, not on Pyrus baccata, although some are on this stock, but on the seedlings of Martha, Transcendant, and other cultivated varieties. The apple seedlings used by nurserymen for stocks vary much in hardiness Every tree probably differs more or less and some are undoubtedly quite tender. The result is that varieties otherwise hardy, when grafted on these roots, fail. Seedlings of the crab apples are much more likely to be hardy, and we believe that if some nurseryman would make a specialty of growing the apples suitable for the colder parts of Canada on crab apple stocks, he would in time sell a large number of these trees. The advantage of crab apple roots has been very marked in the Northwestern States where trees on ordinary apple stocks have been killed out, while those on crab roots were uninjured.

Bark splitting.—This is an injury which usually occurs on young trees. It is due to the expansion caused by frost when trees are in a very succulent condition. It occurs when trees have grown late and there is a heavy fall of snow before the ground freezes. The soft snow appears to soften the bark of the trees and when the temperature drops suddenly the bark is loosened. The injury is usually greatest near the ground. In Nova Scotia the Gravenstein and other apples are affected with what is known there as "Crown rot," which apparently destroys the bark about the tree near the ground. From what can be learned of this injury, which occurs mostly in well cultivated orchards, and in moist ground, it is believed that the cause is that the Gravenstein grows too late and is subjected to the conditions just referred to, namely, of being too full of sap. Traces of disease have been found at these injured parts but it is believed that the disease is secondary rather than the principal cause. Bark splitting can be prevented to a large extent by having the wood of the trees well ripened when winter sets in, and this can be brought about, usually, by stopping cultivation in good time. When young trees are injured by bark splitting they may be saved if not too badly hurt by covering the injured parts with grafting wax.

Trunk splitting.—Trunk splitting, while not a common injury in orchards, is not rare. It was long thought to be due to the expansion of trees which had been "hide-bound." This splitting is now thought to be due to the cells of the medullary rays contracting to a greater degree than those of other parts of the wood when there is a sudden lowering of temperature below freezing. The medullary rays are plates of cellular tissue which radiate from the centre of the trunk to the bark. It is trees which have made late growth and are well charged with sap that are usually affected, hence thorough ripening of the wood is necessary for the prevention of this injury also.

Sunscald.—The injury to apple trees known as sunscald is one of the most serious hindrances to successful apple culture, particularly in the northern and eastern parts of Ontario, in the province of Quebec and other parts of Canada where there is warm bright weather in early spring followed by severe frosts. Newly planted or young trees are, as a rule, more seriously affected by it than older ones. The unhealthy appearance of the bark on the south and southwestern sides of the trunk of the tree and on the larger branches is the first indication of this injury. Afterwards the bark and wood dry up and fall away. Trees are often so badly affected that they die. Sunscald occurs during the latter part of winter or very early in the spring when there are warm days and cold nights. In the case of the apple tree, only a part of the trunk is thus affected, being that part which is exposed most to the sun. The hardiest varieties are the least affected. The injury may be prevented to a large extent by only planting trees which are headed low, thus exposing but a short trunk to the rays of the sun; also, by inclining the young trees somewhat to the southwest when planting, thus preventing the sun's rays from striking the trunk except for a short time each day. When trees have been planted and are liable to become sunscalded the trunks may be protected by using a veneer of wood which encircles the trees, thus preventing the rays of the sun from striking the trunk. White building paper tied around the tree is also useful and as it is very good as a protection from mice is one of the best preventives. Boards, sacking and many other things may be used to protect the tree from sunscald. Nothing, however that will be likely to harbour mice should be used.

Mr. H. S. Cunningham, District Representative for the four Cape Breton Counties and his assistant, T. C. Munn, starting on a trip. Cunningham at the helm.
(Note equipment carried in the car).

Crotch injury.—The effects of crotch injury have been very serious in the province of Quebec and in some parts of Ontario in recent years. On examination it is found that in the centre of the crotch and on the branches diverging from it, but close to it, the bark is dead. As a result of this killing in the crotch the tree loses its strength there, rot sets in and eventually the tree is destroyed by the loss of one limb after another at the crotch. This crotch injury is thought by some to be due to ice lodging in the crotch. There are several theories as to why the ice should cause the bark to die. One is, that it acts as a lens and concentrates the rays of the sun, causing a scalding of the bark. The position of the injured limbs alone would seem to be sufficient to show that this theory is not a good one. It seems more likely that the injury is caused by the softening of the bark by the melted snow or water before freezing, and that after freezing the bark which is, even before this, probably tendered than at any other part, owing to its being most shaded there in summer, is subjected to a severe frost and it and the cambium are both injured. It has been also suggested that as this part of the tree is later to mature than some other parts, a severe frost will cause injury by tearing the bark from the wood owing to the contraction of the latter. One of the best means of preventing crotch injury is to grow trees with as little crotch as possible, training with a central leader.

Killing-back.—This is the indication of inherent tenderness of the variety, or of immaturity of wood. Plants which need a long season in which to mature their wood will go on growing so late when cultivated in a climate having a shorter season that their wood is not matured and the young wood or the whole tree may be killed. When the wood of a tree which would otherwise prove tender is well ripened it will often survive, but there are fruits and varieties that will stand only certain minimum temperatures, after which their protoplasm or life is destroyed. It sometimes happens that varieties of fruits which are apparently hardy will survive until after a heavy crop followed by a severe winter when, owing apparently to lowered vitality, they will be destroyed. The Ben Davis apple is an example of this. As has been said, killing back may be due to the immature condition of the wood, or it may be due to the death of the protoplasm. When winter killing is due to immaturity of wood it may be prevented to a large extent by methods of cultivation. From experiments conducted at Ottawa by the chemist, Dr. Frank T. Shutt, it was found that varieties of apples which were known to be tender had usually more moisture in their twigs in winter than those which were hardier, partly owing, no doubt, to the fact that they were more immature than those of trees which were hardier. When trees of certain varieties are liable to be killed after heavy bearing, thinning of the fruit should be practised in order to prevent the lowering of vitality.

Black Heart.—Black Heart is a condition found in trees grown in cold climates. It is caused by the death of the alburnum or young wood in winter. The bark and cambium remaining uninjured, growth continues in the spring much as usual, but the injury remains. Another severe winter or several winters while the trees are young may cause repeated blackening in the same tree and yet the tree continues to make good growth, the cambium not being killed. If a branch breaks off a tree which has been blackened for a number of years, rot may gain an entrance and most of the interior of the tree may rot and some day the tree will blow over and it will be found merely a shell which has been held together by the trunk and a few outside layers of wood. Where repeated frost injury occurs, as in such a case, the tree is not hardy enough for the climate it is growing in. At the Central Experimental Farm many trees are black-hearted but most of these trees are growing and bearing well and there is no outward evidence of this injury. On cutting down many bearing trees which it was desired to remove for other reasons black heart was present but there was no evidence that rot had set in. Black Heart in its incipient stage may be prevented by careful attention to northern grown nursery stock. During the winter after the first season's growth of the young grafted trees, most varieties are likely to be killed back, and when the tree begins to grow in the spring it will be found that the alburnum or sap wood is blackened below the point where growth begins. This is Black Heart. Careful nurserymen now cut back the young trees almost or quite to the ground the first year, in order that the tree may start growth from healthy wood. The same thing may occur the second season, and the trees are again cut back, but it is usually not necessary to cut so far. Even after trees are three and four years of age and have been planted in the orchard they may get Black Heart by winter injury, but it is much rarer than when they are neglected in the nursery. In November of 1911, 22 degrees of frost caused much Black Heart in nursery stock. It is very important to have the wood ripened up well where such severe frosts are likely to occur in autumn. Trees badly affected with Black Heart the previous year do not make as vigorous a growth as uninjured trees. The growth also will be somewhat spindly. The tenderer varieties are more susceptible to Black Heart than the hardy ones.

Discoloration of Sap Wood.—In parts of Canada where there is often a sudden drop in temperature several degrees beow freezing while the wood of nursery stock or young trees in orchards is not yet well ripened, a discoloration or browning of the sap-wood occurs. The writer found on examination of nursery stock after eight degrees Fahrenheit of frost that some varieties showed this discoloration. So far as we are aware there is no evidence to prove that this slight discoloration will seriously injure the tree if it has any bad effect at all. In districts where these early severe frosts occur trees already planted in the orchard are liable to become discoloured and if the frost is severe enough they are likely to become black hearted.

Trunk Injury—Body Injury.—The fact that trees loose moisture in the winter has been proved by careful experiments. In an experiment conducted at the Central Experimental Farm by Dr. Frank T. Shutt, Chemist, in the winter of 1902-3 to determine the moisture-content of apple twigs, it was found that during the depth of winter there was a gradual loss of moisture. Experiments at other places confirm this. In the Northwest, where the weather is very cold in winter and there are often no trees to check the force of the wind, trees lose so much moisture that it is a common occurence for them to die simply from drying out. The same trees if protected by a good windbreak would in many cases not be injured. It has been written, although we are not sure that the figures are correct, that the same surface which would in calm weather exhale 100 parts of water would exhale 150 parts in a high wind. These proportions would probably be considerably less in the case of fruit trees protected by bark, but it shows what a drying effect wind has. The winter of 1906-7 was a very cold one in eastern Ontario and the province of Quebec, and there was considerable injury from body-killing. This, for the

(Continued on page 159)

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Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.
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The Nova Scotia Fruit Growers' Association

will hold their annual meeting this winter at

Lawrencetown, Anap. Co., N. S.

This is a three day Convention and is looked forward to by Valley Fruit Growers as the BIG event in the Horticultural year.

Keep the dates in mind

Jan. 16, 17 and 18, 1917

MANNING K. ELLS,
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Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
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Butter Parchment at Farmer Office

MOTHS IN NEW ENGLAND

The warfare against moths last year included the liberation of 12,947,700 parasites which prey on the gypsy moth in Massachusetts and New Hampshire alone, by the federal authorities. Of these 661,713 were Japanese parasites. These were liberated in 28 towns in Massachusetts and 11 in New Hampshire. Another enemy of the gypsy moth was colonized in 14 towns in Maine, 31 towns in New Hampshire, and 71 towns in Massachusetts. In all 12,286 colonies of this species containing 12,286,000 individuals, were liberated to aid in the work of controlling the gypsy moth pest. These two parasites place their eggs in the egg of the gypsy moth, the eggs of the parasites hatch into larvae, or grubs, and these feed upon the developing caterpillar within the eggshell and kill it before the egg has a chance to hatch. According to the annual report of the federal bureau just published the parasites previously released seem to be gaining a foothold and many of them are now found in larger numbers and over a wider territory than ever before. The Calosoma beetle, another insect enemy of the moth, the report states, is continuing its good work, although apparently the beetles are not so numerous in certain localities as they were last year.

In New England, in co-operation with state officials and other state agencies, considerable progress is being made in fighting the gypsy moth. This year in two towns in New Hampshire, two in Vermont, four in Massachusetts and three in Connecticut, the insect has apparently been exterminated. Extensive scouting to determine its spread showed that the moth has been found in 15 towns where it was not known to exist before. This gives a net increase of only four infested towns, which, the entomologists say, is a much smaller number than has been reported in previous years.

All of the infestations discovered in these towns have been carefully treated and a large amount of creasoting of egg masses and banding and spraying of trees has been done in towns immediately inside the border. During the year approximately 35 tons of arsenate of lead were used, and over 12,000 miles of roadway and 24,000 acres of woodland were examined.

To prevent the spread of gypsy and brown-tail moths in nursery stock and forest products, the inspectors examined 37,444 shipments, 664 of which were found to be infested. The infested specimens were treated before their shipment was permitted.

The severity of the brown-tail moth infestation has ssteadily decreased, and the insect is by no means as abundant as it was the previous years. The various lighthouses along the coast of Connecticut and Long Island have been examined, but no migrating moths have been found. Fewer moths have been found on trains coming from infested regions during the season when the moths are flying than in any year since the work has been begun. Thi s indicates quite clearly that the moth is not spreading into new territory, and the conditions in the territory known to be infested showed marked improve- and in many of the towns where this insect once caused much damage and annoyance it has done ittle injury during the year.

CHANGE IN APPLE REGULATIONS

Under date of November 18 Sec Wheeler of Massachusetts writes: We have decided to make a change in the regulations for inspection of cold storage apples under the Massachusetts apple grading law. Hereafter, instead of attempting to stamp the barrels we shall issue a clearance card to the owners of apples in storage which are correctly marked. This card will contain the storage number of a particular lot and will authorize the sale, without further inspection, of all apples in that lot. The ruling follows:

Apples which have been in cold storage shall not be sold or distributed, or offered or exposed for sale or distribution, in closed packages until they have been inspected in accordance with rules and regulations to be prescribed by the secretary of the state board of agriculture.

Apples in cold storage will be inspected as soon as may be after they have been placed in the storage warehouse. Owners of packages found correctly graded and branded will receive a "record of inspection" stating that the packages comply with the law and these apples will not hereafter be liable to inspection.

In cases where the packages are found to be misbranded or the contents adulterated the owner will be notified and given an opportunity to change or correct the marks to comply with the law.

Parties who sell apples from storage without making the changes required will render themselves liable to the penalties fixed in Section 14 of the act.

The above regulation refers only to Massachusetts apples in closed packages or out of state apples branded as Massachusetts standard grade.

GIRDLING WILL KILL TREES

What drug will kill live or growing trees? Do you know if there is some kind of a drug which can be successfully used? I have some trees which I wish to get rid of.—George W. Crain.

We do not know of any drug which can successfully be used to kill growing trees. Preparations which might be applied to the soil at the base of trees would probably make an expensive operation and might render soil unfit for growing other plants at a later time. Probably the best way to kill a large tree is to girdle it competely around; then cut it down at your convenience. If it is a number of very small trees which you wish to get rid of, probably a good ax applied right below the crown of each tree would accomplish what you wish. If the ground was to be put under cultivation later on, the plowing would turn up the roots, which could be picked up and cast aside.

Write to-day for the 1916-17 edition of **HALLAM'S FUR STYLE BOOK.** 32 Pages illustrated, which shows beautiful stylish fur sets and fur coats moderately priced, and also gives full particulars of **HALLAM'S ZOOLOGICAL CONTEST.** 64 Prizes. **$300.00 in CASH** given away free.
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GUNS, traps, animal bait, nets and supplies are described and priced in our 92 page Sportsman's Catalog which we mail free.

RAW FURS—We are the largest Cash Buyer of Raw Furs direct from the Trapper in Canada. Our Raw Fur Quotations sent Free.

ENCOURAGING POTATO GROWING

The New Brunswick Potato Growers' Association is indebted to The Colonial Fertilizer Co. for $100.00 to be used as prizes for encouraging the improvement of the new Brunswick potato industry. As official organ of the Association the Maritime Farmer wishes to recognize the donation and bring it to the attention of the potato growers of the province. Every potato grower in New Brunswick should become a member of the Potato Growers' Association and work with it for the elimination of potato diseases, for better seed selection, for better cultural methods and up to date marketing.

Following is a copy of the Colonial Fertilizer Co's letter to the President of the Association:—

Colonial Fertilizer Co.,
Windsor, N. S.
Nov. 30, 1916.

T. W. Caldwell, Esq.,
Florenceville, N. B.

Dear Sir:—

We have a letter from our general manager in reference to prizes to the Potato Growers' Association, covered by your recent letter.

When writing him we recommended that if he was agreed to it we would make the sum of $100.00 and he writes us that we would donate this in the name of the Colonial Fertilizer Co. Such disposition of it and such prizes as you offer we would leave entirely to your Association but it would be the writer's idea that such prizes as are offered be general prizes and not be limited to any particular brand of fertilizer used, or be hedged about with conditions which would not give the farmers the freest scope.

This is our personal opinion but we donate the $100.00 to be used in any way that your Association sees fit.

Yours truly
COLONIAL FERTILIZER CO.
per A. P. Clark.

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We are in a position to state that there is no firm, individual or corporation, that can give

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Write for our Price List and Market Reports which quote the very highest possible honest market prices. **It's FREE—Write Now!**

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YOUR roofing troubles will end when you invest in Everlastic Roofing. There is no better roofing value on the market, and no better made rubber roofing for any thing like this price. It defies wind and weather and insures dry buildings.

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DAIRYING.

THE COW AT CALVING TIME

There is no time in the whole milking period that has such an important bearing on the establishment of a standard for production or the year as the period previous to and following calving time. It is understood by many, but not by all, that if a cow is allowed from six weeks to two months in which to rest from one lactation period to the next, she will yield more than when milked continuously up to the time of parturition.

The act of calving brings stimulation to the milk producing organs, which is the only natural and effective means of stimulating milk secretion, and it is a serious mistake not to make the most of it. It is necessary to handle the cow in such a manner as to derive full benefit from this stimulation while it is yet present, since with most cows it rapidly wears off if not utilized.

At this time of year, with cows freshening in the fall, this question concerns many. Rather liberal feeding, which actually builds mild nutrients on the body, during the last few weeks of the lactation period, and while the cow is dry, is the secret of preparing the cow for the succeeding lactation period. This may appear to be wasting feed, but this is the important period when it is most valuable.

During the last few weeks of the milking period grain may be fed at the rate of one pound to each two pounds of milk produced, reducing at the period when the cow is to be dried. A good many have trouble in drying off persistent milkers by the plan of skipping milkings, but when less than 14 pounds of milk is yielded, daily milking can be discontinued at any time without serious difficulty if accompanied by a reduction in the feed. The udder will become filled, but the fluid contents will soon be absorbed.

When dry, about eight pounds of grain should be fed daily, more if the cow is in poor condition. It would not be profitable to feed inferior cows this way. These, however, cannot always be detected from the other unless all have an equal chance, and weeding is practised, based upon the record of production. The grain ration should be bulky, laxative and nutritious, having slightly more carbohydrates than a milk ration, with a nutritive ratio of about one of protein to seven of carbohydrate and fat equivalent. If a high percentage of fate is sought even more liberal feeding of grain will be useful.

During this period protein and fatty tissues are actually being stored upon the body to be used in the production of milk before the cow is in shape to digest and assimilate a full ration. A cow is like a toboggan in that the higher she starts at the beginning of her slide, the faster and longer will she keep running. It is just as serious to crowd the appetite during the first month after calving as to neglect to lay on this supply of nutrients. The cow should be kept hungry. If fed all she would eat harm will be done, and a check on her flow is the natural result of going "off feed," as most cows reach their limit early by this sort of handling.

A week before calving reduce the grain to four or five pounds, feeding mostly bran and oats. On the day of calving a pound and a half of epsom salts, luke warm water, and good hay are enough for a well-conditioned cow, although two quarts of bran mash may be useful. Begin the next day feeding lightly and after four or five days introduce a grain mixture gradually. Increase this gradually about one-fourth pound per day. DO NOT EXPECT A COW TO HANDLE ALL THE FEED CALLED FOR BY HER YIELD OF MILK. If she has been properly conditioned and is coming to a good flow from one month to six weeks is early enough to get her on full feed. For from three to six months she should gradually lose the flesh stored up.—F. C. White, Dairy Dept. Conn. Agri. College.

THE CASE FOR DAIRYING

It has been a matter of common note, that a country, province, or even a neighborhood, that pays considerable attention to dairying is a prosperous one. The buildings are usually painted and in good repair; fields well cultivated and cribs and granaries demonstrate the fertility of the land. There are several reasons that the average person could give offhand as to why this is true, but it remains for an Australian dairy professor to embody all these reasons in about as brief and striking a way as we have ever seen. He summarizes the advantages of dairying in the following 12 reasons:

1. It takes less fertility out of the soil than any other form of agriculture and hence it is useful in following a well-regulated system of rotation.
2. It can be combined readily with other forms of agriculture.
3. The dairy provides in winter a quantity of stable manure in which the straw from the farm is profitably utilized.
4. The by-products from the cow, skim milk, whey and buttermilk, are a source of income in raising pigs and calves.
5. Dairying gives constant and regular employment of a light character to every member of the farmer's family.
6. Dairying inculcates habits of punctuality, industry, cleanliness and thrift on the farm.
7. Cheese and butter are condensed products and the cost of carriage, in comparison with their value, is less than that of any other farm product.
8. The demand for good butter and cheese on the world's markets is unlimited and, so long as the quality is maintained, an all-round, even and profitable price can always be secured.
9. The monthly check from the creamery provides the mainstay in the household as against the precarious returns from yearly crops.
10. In mixed farming the income from the dairy is most reliable.
11. The farmer's household, as a result of dairy work, is always supplied with fresh milk and cream, butter, cheese, pork, bacon and veal.
12. Storekeepers, traders, bankers and financial men all fully realize, after years of experience, that wherever dairy farming is conducted farmers are most prosperous, mortgages are rarely found and the value of landed property becomes considerably enhanced.

Our Australian informant has made a complete case. We might, however, take a look at the other side. Dairying is the most exacting occupation in the world. It is a case of "daylight to dark," Sunday and every other day. People who devote their lives to the pursuit of such an occupation, have a right to expect the highest form of remuneration. Our old friends, "supply and demand," are actively at work, however, and prices of butter, cream and milk are on the advance. They are not, by any means, high enough yet, but we are in hopes that before long the dairyman will receive what he deserves for his output. When he does, dairying will come into its own. In the meanwhile, get ready. It takes years to develop even a small dairy herd—and more years to develop the man himself along dairy lines.

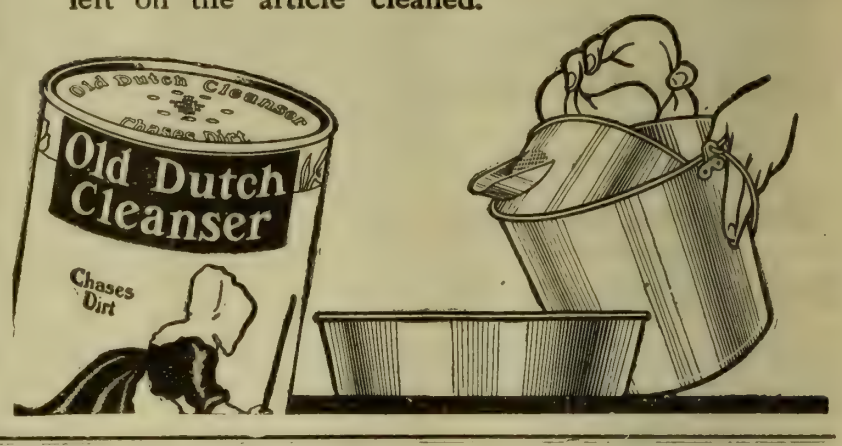
BRINGING UP THE DAIRY CALF

On this subject there will as usual be much diversity of opinion. Much will depend on whether the calf is pure-bred and deserving of special treatment, or on what is to be done with it afterwards. Taking the average dairy calf it is, I think, preferable to take it from its mother as soon as it is born. This keeps the cow quieter and less liable to be excited, therefore, she recovers a normal condition quicker. The calf does not suffer in the least from the early separation, and, on the whole, gives less trouble, as it very seldom goes to suck the cows afterwards if never allowed to start. There is no trouble in feeding the calf for a time or two with a bottle or teaching it to drink right away, and the calf will grow and thrive just as well as if left with its mother.

It has been said of the heifer calf, that the first three months is the making of the cow and it repays the farmer to put himself to a little extra trouble until the calf passes this period. I find that the cow milks easier and stands quieter when the calf is not allowed near her. While that is my practice and experience my nearest neighbor always allows his calves to remain along with their mothers for the first day, then separates them. He claims this is being more natural and less trouble as well as more beneficial to calf and cow alike, than immediate separation. But I have observed that when the calf is removed, the cow has been unduly excited and has remained in this condition sometimes for a day

Old Dutch

quickly and thoroughly cuts milk clots and scummy accumulations from milk pans and pails — No greasy film left on the article cleaned.



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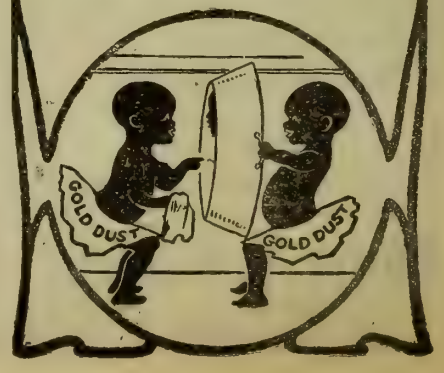

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Butter Parchment

Farmer Office

Sussex, N. B.

or two. The calf has also tugged and strained at its halter in its frantic struggles to get back to its mother, whereas, when it is tied up right away, it has neither strength nor inclination to strain and takes to its halter quite naturally.

THE HARD WORKING COW

The cow will make a factory of every farm if given a chance. On every hand by-products of grain farming are going to waste. A fertilizing value of $375 is represented by the feed which a cow will convert into a ton of butter that removes but a few cents' worth of fertility from the farm.

The cow is a hard worker, but she charges nothing for the privilege of transforming the green feed, alfalfa and other farm feeds into one of the best foods known to man. What greater work could be expected of a domestic animal?

The product of the cow is a crop that never fails if we do our part. The dairy pay checks comes each week and helps to put farming on a cash basis.—Nor'-West Farmer.

DAIRY BREEDS DIFFER IN COMPOSITION OF MILK

Which do you prefer, skimmilk from a Holstein or from a Jersey cow? It is generally known that Holstein milk has a lower percentage of butterfat than milk from other breeds. Does the skimmilk from it have a correspondingly lower percentage of it constituents, chiefly protein and sugar?

Chemical analyses made by A. E. Adams, dairy chemist at the Ohio Experiment Station, show that milk from Jersey cows has a higher percentage of protein and sugar than Holstein milk. Guernsey milk is quite similar to that of the Jersey, while Ayrshire milk is intermediate between that of these two breeds and the Holstein.

These analyses indicate that the percentage of protein in milk increases with the fat content, but not in proportion. Skimmilk from Holstein milk having 3.3 percent fat contained 3.5 percent protein, while Jersey milk testing 4.7 percent fat had 4.1 percent protein. The variation in the sugar content showed a similar tendency. Thus the fat content of milk offers a practical basis to compute the composition of skimmilk derived from it.

MORE ON THE SUBJECT OF EARLY CALVING

The illustration in The Nor'-West Farmer of September 20th, showing a grade cow that had dropped a calf at the age of sixteen months, has produced some correspondence relative to the earliest age at which heifers have been known to drop their first calves. D. F. Wilson, of Fork River, Man., a well known breeder of Galloway cattle, writes: "The pure bred Galloway heifer, "Precocious of Minnokin," was calved on March 1st, 1915. On May 1st, 1916, she dropped a bull calf, being fourteen months old to a day. Some years ago we owned a red polled heifer which I had bought during her first winter. In the spring she dropped a calf sometime during her fourteenth month. Her grandsire was a Galloway bull."

Joseph Ivens, Merridale, Man., writes: "I have a cow which is now four years old. She was born in March 1912 and calved in February, 1913. The calf was a normal one, fully developed, but no one being in attendance, it died at birth. I rested this cow for two years, but can see no ill effects from calving at so early an age. I consider this particular cow in no way hurt from the experience. My neighbor, who is doing his bit at the front, will vouch for the above statement. A cow belonging to the same man calved this spring at thirteen months, cow and calf doing well.

One of the biggest drawbacks to the dairy industry is the lack of good cows. Try to fill this need by using good sires and rearing your best heifer calves.

The hands and clothing of the milker are frequent contaminators of the milk. The hands should always be carefully washed and the clothing kept as clean as possible.

Palatibility is that quality of a feed that makes it relished and desired by the animal.

50c BUTTER

Makes Imperative the Use of an Improved

DE LAVAL

CREAM SEPARATOR

WITH the certainty of the highest prices ever known for butter this winter, no producer of cream can afford to run another month without a modern De Laval Cream Separator.

This is true whether you have no separator, or an inferior make of machine, or even an old model De Laval machine.

The waste of butter-fat is relatively greatest in winter, either with gravity skimming or a poor separator.

At present cream and butter prices, a new De Laval machine will almost surely save its cost within three months, and go on doing so thereafter.

There can surely be no good reason to delay the purchase another week, and if it may not be convenient to pay cash it may be purchased on such terms that the machine will easily pay for itself.

See your De Laval agent immediately, or, if you don't know him, address the nearest De Laval main office, as below for any desired particulars.

The De Laval Company, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

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LIVE STOCK.

HANDY MEDICINE CHEST FOR FARM STOCK

A well-equipped but inexpensive medicine chest for farm use may be made out of a good box and should be supplied with instruments and drugs to meet emergencies. Such articles are a sharp knife, pair of artery forceps, scissors, metal dose syringe, three or four thermometers, galling gun for giving physic balls, gallon can with hose attachment for giving injections, hoof knife, nippers, rasp, hoof hook, hypodermic syringe, needle and thread, bandages and absorbent cotton.

These articles may be purchased at any drug store. A good antiseptic is important. Creolin probably is best and safest and is used in a 2 p. c. to 5 p. c. solution. For a milder antiseptic, potassium permanganate, one teaspoonful to two gallons of water, is recommended.

For a physic linseed oil is good, but cathartic balls are safer and more convenient. Epsom salts may be used for cattle, but are not recommended for horses.

Two liniments are recommended. One, which is mild, is composed of one ounce turpentine, one ounce strong ammonia, 48 grains camphor gum, one to two ounces iodine, and alcohol to make a pint of mixture. A stronger liniment may be made from two ounces camphor, two ounces turpentine, four ounces tincture iodine, 16 grains bichloride of mercury and eight ounces alcohol. This should not be rubbed in unless a blister is desired, in which case use two ounces cerate cantharides and one drachm bichloride of mercury. Another good blister is cantharides one part and lard eight parts.

A good dusting powder is made of 35 parts powdered alum, 13 parts zinc oxide, one part boric acid, one part phenol and one part camphor gum.—DR. C. W. McCAMPBELL.

SHEEP THRIVE IN OPEN SHEDS

Sheep sheds may combine efficiency and economy. The Pennsylvania state college has demonstrated that sheep wintered in an open shed having a southern exposure, free from drafts and affording a dry bed, are in better physical condition than those wintered in a warm, ill-ventilated barn basement. During the lambing season, of course, warmer quarters are necessary. Ewes may then be removed to warmer quarters and later replaced in the shed. After lambs are three days old they will not suffer in the open sheds, even during zero weather.

The shed used to house experimental ewes and lambs at the Pennsylvania station adjoints the south side of a hay shed. The sheep shed is 30x60 feet and cost $200. Its capacity is 100 mature sheep. It was built of hemlock lumber over a superstructure of oak posts. The roof and west end were covered with tar paper. An alley 6 feet wide runs the full length of the inner side of the shed. The hay shed attached affords a place for storage of feed and lambing pens.

The shed is divided into seven pens for experimental purposes. Three lots instead of seven would probably be more desirable under average farm conditions. Under such conditions also, breeding sheep in winter quarters should be divided into groups with reference to age and condition. Breeding sheep should be separated from fattening sheep. An exercise yard 32 feet wide adjoins each pen. These are well drained and dry.

THE HEREDITY OF SEX

Under ordinary conditions, for every 100 female calves born in a herd of cattle there will be 107 male calves. Many cases have, however, been noticed in which the proportion was very different.

Thus, in a herd of registered dairy cattle, about 75 per cent of all the calves born in recent years have been males, while in another case a cow (which has beaten the world's record for milk production) and its two sisters dropped 12 male calves and only 1 female. The study of the ancestry of these animals revealed, both in the first and second case, an hereditary tendency to produce more offspring of one sex than of the other. The possibility of obtaining by selection a breed of fowls that has a tendency to produce disproportionate numbers of one sex has also been proved. Mr. H. E. Sharp, a breeder of the State of Washington, has developed a strain of Langshan fowls that are producing over 90 per cent females, and this trait is being transmitted from generation to generation; he has also found that amongst the chickens hatched from the eggs of a single fowl, the proportion between the males and females varies very little with the change of the cock with which the hen is mated, or from one year to another, whereas it varies enormously in the case of different fowls of the same lot.

The inbreeding experiment of Dr. Helen Dean King at the Wistar Institute, Philadelphia, has given results which lend some colour to the belief that a strain of animals may be produced having a tendency to produce disproportionate numbers of one sex. The experiment has been carried out for six years, and during this time more than 22,000 albino rats have been bred and studied. From the same litter two males and two females were taken; imbreeding was practised to the sixth generation without any special selection; two pairs were taken from this generation, the one (brother and sister) from a litter containing an excess of males, the other from a litter containing an excess of females. There has been steady selection in the opposite direction through 21 generations with strict inbreeding of the animals selected. The result is that, instead of a normal ratio of 107 males to 100 females (which was established at the beginning of the experiment) Dr. King now gets in the one line 150 males to 100 females, and in the other, 65 males to 100 females.—The Journal of Hereditary.

PIGS HAVE BLIND STAGGERS

Pigs are sometimes affected with blind staggers caused by bad, stagnant blood, which is usually produced by too close confinement in ill-ventilated, dirty pens.

Give them exercise in the open air or in a dry, clean, well-ventilated pen with plenty or room. Throw a few pease or whole wheat into some straw or chaff on a clean floor and let them hunt for it, or a little silage scattered over the floor will be good. This will give them exercise and keep the blood circulating. In case of an acute attack drag pig out into the open air and rub it vigorously with cloths or the hands to start the blood circulating, and give the following: For a pig 3 months old give 1 dessertspoonful of epsom salts; for a pig 3 to 6 months old give 2 dessertspoonsful, and for a pig 6 to 12 months old give 3 to 4.

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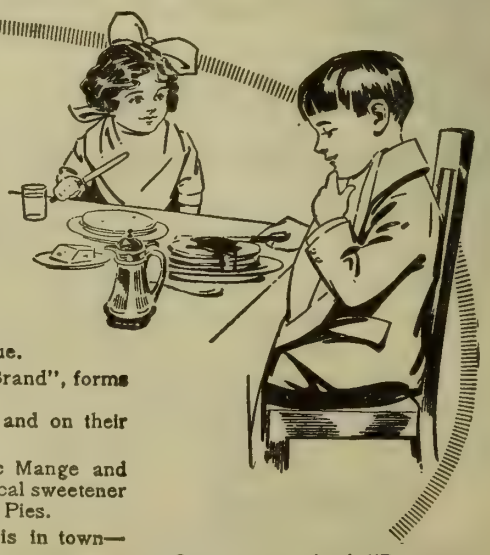

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A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

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HAD INDIGESTION.

BURDOCK BLOOD BITTERS CURED.

That grand old remedy, Burdock Blood Bitters, has been on the market for over forty years and we claim, without any fear of contradiction, that there is not another medicine on the market to-day that can compare with it for the cure of all disturbances of the stomach.

Mrs. S. Turpin, Colborne, Ont., writes: "I am writing to say that I have used your Burdock Blood Bitters. For a long period I suffered with indigestion, and nothing I took ever gave me any relief, only for a short time. I bought several bottles of B. B. B. from our druggist, Mr. Griffis, and can honestly say I can eat or drink anything I want without experiencing any bad after-effects. I may say that it is the only medicine I ever got any relief from."

Burdock Blood Bitters is manufactured only by THE T. MILBURN CO., Limited, Toronto, Ont.

AGES OF CATTLE AS TOLD BY THEIR TEETH

A cow's age can be estimated quite accurately by noting the appearance of the second set or permanent teeth. The first set is known as the milk teeth. A calf is born with a central pair of teeth and the remaining pairs appear within the first month.

When the animal reaches the age of eighteen months, the central pair of milk teeth is replaced with larger and permanent ones. These are easily recognized, as they are nearly twice as broad as the first ones. Other pairs appear at intervals of approximately nine months, but this may vary somewhat, according to conditions. When the animal reaches the age of twenty-seven months, the intermediate pair of teeth appears, making four permanent ones, easily recognized by their larger size. The third pair usually makes its appearance at the age of thirty-six months, and the fourth pair, the two end teeth, at the age of forty-five months. If there is any variation, the animal is apt to be older rather than younger than the teeth would indicate.

There is comparatively little change in the teeth of cattle after the fourth year until they have been used a few years. As the animal gets older, the teeth become narrower, and by the ninth year there is considerable space between them. After this they shrink away from each other, become discolored, and drop out one by one.

Most of the horn growths takes place the first two years. After this each year's growth is marked by quite a distinct ring, so that the age can be estimated fairly accurately by counting the rings and adding two. The first ring appears at the age of two years.

DESTROYING HORNS

How can I treat my calves to prevent them having horns? I have been told there is some substance that could be rubbed o nthe head of the calves that would prevent the horns growing.—J.

Caustic soda or caustic potash may be used to keep the horns from coming. Either of these may be secured at most drug stores in the form of a white stick. When the calf is about four days' old, clip the hair away from over the young horn, over the space about the size of a 5-cent piece. Then wash this space clean with soap and warm water and thoroughly dry. Then slightly moisten the uncovered end of the caustic and apply it to the horn buttons, applying it first on one side and then on the other, allowing it to dry after each application. This should be done about three times, and great care be taken each time that it does not touch the surrounding skin. In about a week a thick scab drops off, after which, if the operation has been successful, the young horn no longer grows.

A NEW TYPE OF CATLE FOR ALASKA

No breeds of dairy or beef cattle have as yet been found hardy enough to stand the winters in the interior of Alaska without excessive expense for food and protection against cold. As a result, milk sells for 50 cents a quart, and the beef that is consumed in the country consists almost wholly of coldstorage meat brought from the outside. To remedy this situation as far as possible, the Alaska Experiment Station have undertaken to cross Galloway cattle with the Yak, an Asiatic ox much used by Mongolians, Tibetans, etc., for milk and meat as well as work. It is used for a beast of burden at altitudes of 12,000 feet or more. It is extremely hardy, pastures through the winter under the open sky in Siberia, and obtains feed from last year's dead grass dug from under the snow. Crosses of the Yak and ordinary domestic cattle are common in parts of Asia (for example in Turkestan) and have been found of much value.

SHEEP ACCOMMODATION

Prof. H. Hackedorn of the Missouri College of Agriculture makes some general suggestions. He says: "In planning barns or sheds for a breeding flock of sheep, a space of 10 or 12 square feet per ewe will give sufficient room. The essentials of shelter for sheep are (1) dry floor, (2) good roof, (3) an abundance of fresh air, (4) avoid drafts, (5) avoid narrow doors and passages so ewes heavy with lamb will not be injured, and (6) provide sufficient feeding trough space so all the sheep can eat at the same time.

"We find that a shed 25 or 30 feet wide and as long as necessary to house the flock gives very good results at the Missouri Experiment Station. It should open on th south and may be built with a feed trough and feed alley along the north side. Economy of rack space may be secured by the use of movable racks so arranged as to make as many lots as are needed in the shed. These partition racks can be moved out of the way whenever a wagon is driven in to be loaded with manure. The shed should be high enough to afford plenty of loft room. As we feed baled hay, a loft five feet high at the eaves gives us room enough to store a winter's supply for the flock, but if loose hay is put in and fed correspondingly, more loft room must be provided."

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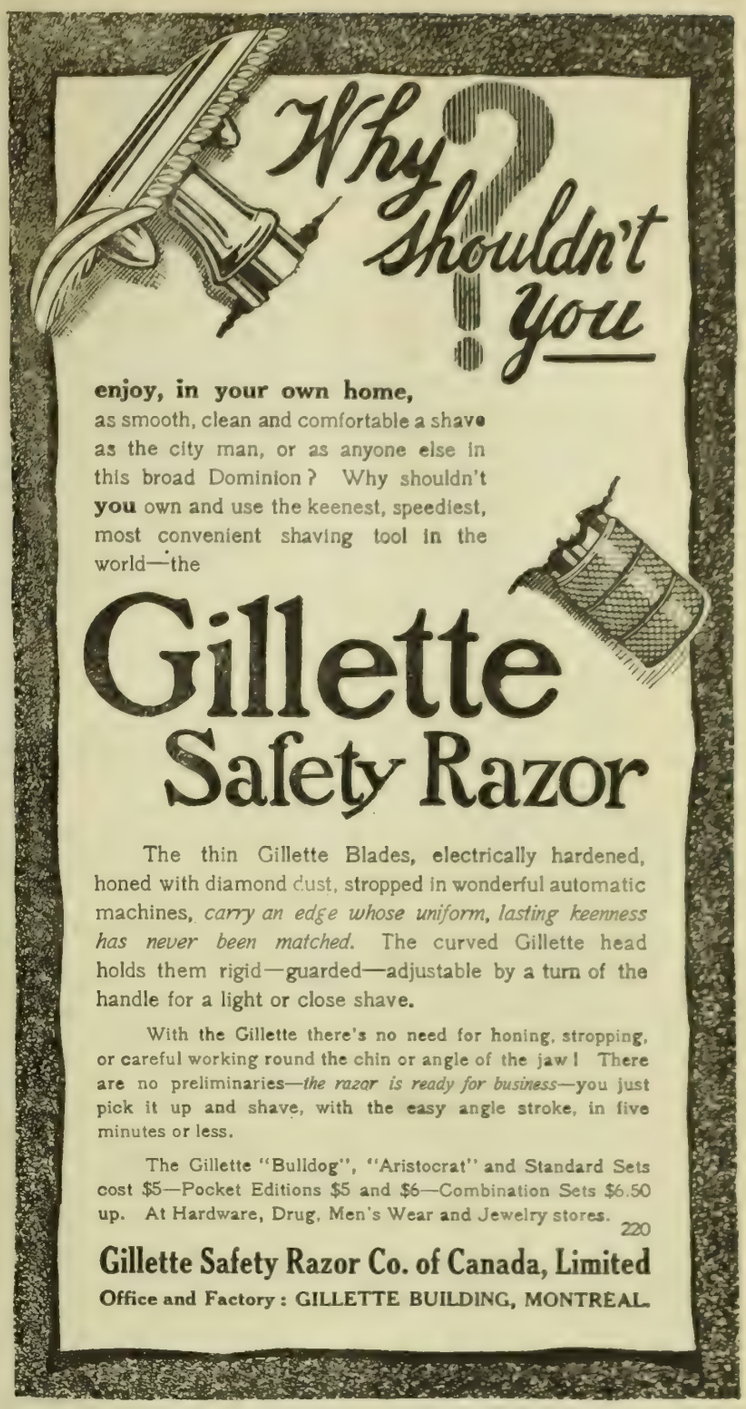
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The Gillette "Bulldog", "Aristocrat" and Standard Sets cost $5—Pocket Editions $5 and $6—Combination Sets $6.50 up. At Hardware, Drug, Men's Wear and Jewelry stores.
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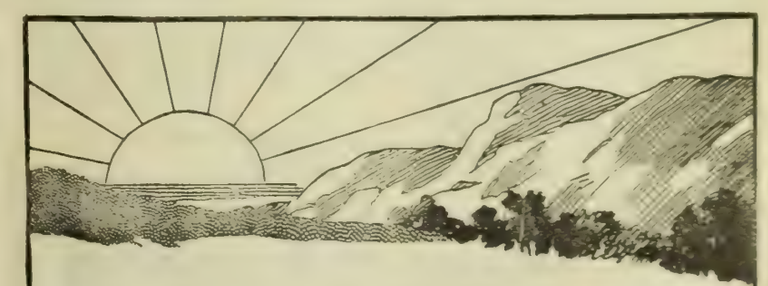

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"MORE BREAD AND BETTER BREAD"

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THE HORSE

PRIDE IN HORSES

Good horses always are objects of pride. The better a man's horses the more proud he will feel. The more pride a man has in his makeup the better will be the horse that he drives. The man or the boy who feels genuine pride in horses is a more wholesome object of respect than the one who posses merely a mercenary view of the value of horseflesh.

Pride in horses is a necessary qualification of a successful breeder. Pride is essential to a genuine liking for horses and a knowledge that will enable a man to succeed. Pride in horses is not the pride of aloofness; it is the pride of sincerity and love of good horses. A breeder's success is largely made or marred by the feeling of pride that he puts into his business. An extensive dealer and imported who has progressed from a humble beginning to wealth and fame takes great delight and satisfaction in the fact that stallions which he has sold have sired offspring of such extraordinary merit that the country through which his horses have been distributed has become famous for its good horses. "I always liked good horses and have handled no other kind," this man has said. Had he not possessed such liking and such pride in good horses he might have distributed inferior stallions, with the result that the district would be filled with mediocre horses instead of the high-class kind that is being sought by buyers from all over the country.

Every normal farm boy is filled with a love of and pride in good horses. The boy who is given the opportunity to express that pride is the one who is going to stay with the farm. On an Indiana horse farm where the breeding of Belgians has become nicely established all business is done in the name of the father and sons as a firm. The father states that one son is fitting a stallion for the International show and that another is fitting a pair of geldings. Already animals from that farm have a creditable reputation in the showing and among the buying public. The pride that those boys have and the opportunity that is given for the expression of that pride ensure that they will be in the first rank among the successful breeders of the future.

A successful breeder relates that he grew up on a farm where horses of every common sort were kept. Always he looked forward with suppressed pride to a time when he might own some good animals of his own. When he started out into the world for himself he saved money carefully. Finally he had enough to purchase one good mare and is now nicely established in the business of producing purebred drafters. It was his pride and hope that caused him to stick to his purpose.

The public feels a pride in horses. A community noted for its good horses is invariably progressive. The biger horse shows are always held in the communities where the farmers and horsemen own and breed horses worthy of pride. The community whose citizens feel a pride in good horses finds that the world accords it a greater measure of respect. A community in eastern Minnesota is known for the excellency of its horses. In other lines as well as horses people are looking to that community for products above the ordinary. Salesmen feel that nothing common or inferior can be sold there. Buyers know that they can find large numbers of good animals there. There are few communities where horse shows are supported more loyally.

In nearly all states and in practically all localities the horses are of greater financial value than any other class of live stock. Sometimes their value exceeds the value of all other live stock combined. That fact is sufficient to increase the pride [illegible] of good horses.

H. E. McCARTNEY.

Indiana Stallion Enrollment Board in Breeders' Gazette.

MANY HORSES HAVE DEFECTIVE EYESIGHT

Defective eyesight in horses is a very serious fault, and to it can be directly traced the cause of innumerable accidents. A blind horse is always dangerous under the saddle or in single or double harness. A horse with a defective vision that distorts ordinary objects met with on the road is even more objectionable, in some respects, to ride or drive than the horse that is totally blind. Shying in many instances is the result of poor eyesight.

The buyer or owner who is apprehensive regarding a horse's eyes or eye may satisfy himself whether or not disease exists by following directions here given for the examination of the eye: With the thumb and forefinger gently part the eyelids, thus exposing to view the eye and the mucous membrane lining the lids. The right hand should be used in manipulating the lids of the left eye, and the left hand for the right eye, the finger in each case being pressed on the upper lid.

When it is necessary to examine the inner side of eyelids more minutely, draw upper lid down by the eyelashes with one hand and invert it over the tip of forefinger of the other hand.

Many forms of pronounced eye disease can be discovered in ordinary light, but where it is necessary to examine the interior of the eye for incipent disease or slight defects a more careful examination is necessary.

The interior of the eye cannot be satisfactorily examined in the sunshine or under a clear sky; grave defects can be seen under such circumstances, but for careful examination of the eyes the horse should be taken where all light from above is shut off where it falls on the eye from the front and side. The examiner standing in front will see the reflective rays from the cornea, the front of the lens and the back, and can detect any cloudiness or opacity.

The most satisfactory examination can be made in a dark room by illuminating the eye with a lamp or small electric light placed forward and outward from the eye, and moving it about. If the pupil remains closed or so tightly contracted that the interior of the eye cannot be seen, the eyelids may be rubbed with extract of belladonna, and soon the pupil will be widely dilated.

JAMES BROWN.

THE DANGER OF NAILS

Barb-wire and rusty nails take a heavy toll of horse breeders. The wire is perennially slashing horses' legs and leaving ugly and costly scars. The nails concentrate their attacks as winter approaches and the horses are turned into lots and buildings lately repaired for cold weather. New lumber is bought every fall by the wagon-load for repair work. Where the new boards go in place, old ones with protruding rusty nails come off. If these are thrown on the ground and left for a day they are likely to be left for a week and eventually forgotten entirely. From a financial standpoint the most important work in repairing an old stable or yard fence is to pick up the old boards at once and pile them where stock does not run.

If there are old nails sticking up through boards horses seem especially sure to step on them. The result is sure to be lameness and expense in treating the injury; it is likely to cause either brood-poisoning or lockjaw; it frequently ends in death through these diseases. When a horse steps on a rusty nail it is a wise precaution to have a veterinarian give treatment, so as to prevent a serious infection. It is a wiser precaution to keep all the loose boards picked up and put away.

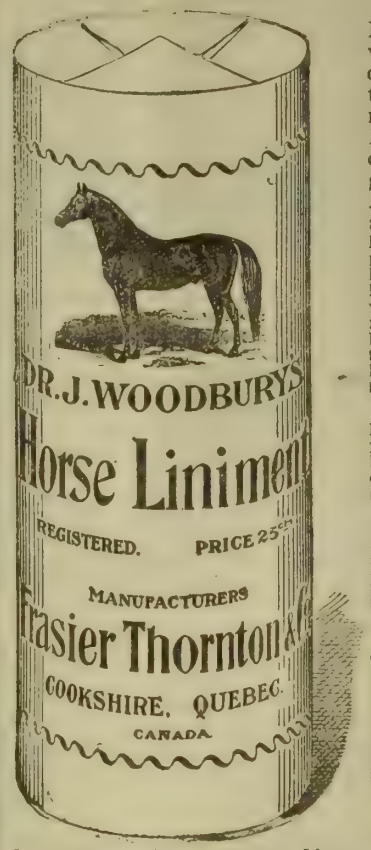
WORMS

R. G. M.,—"(1) Most horses here are troubled with round worms. As it is not easy to treat each horse separately, an effective remedy that could be mixed with the salt would be valuable. (2) Is the treatment of fistula of the withers with hypodermic injections of anti-pus serum practical? If so, please describe the treatment, and state where the serum may be obtained."

REPLY.—(1) A tablespoonful of a mixture of equal parts of salt, sulphur and dried sulphate of iron mixed in the feed night and morning for a week proves effective, but should be repeated after an interval of 10 days. The iron is scarcely safe for a pregnant mare. As a lick, sulphur and iron in half the doses stated might be mixed in the salt for periods of one week. (2) Bacterin for such treatment may be bought of any dealer in biological products, such as blackleg vaccine, and is useful in the treatment of fistula, but it does not obviate the necessity of an operation and the use of caustics and disinfectants. Directions for use are given by the manufacturers.

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

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Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
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Yours truly, C. C. McLean.

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This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
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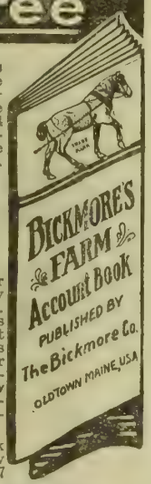

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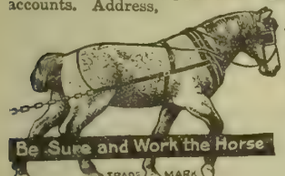

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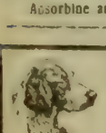

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POULTRY.

THE SALE OF EGGS AND POULTRY IN MASSACHUSETTS UNDER GUARANTEE

The Massachusetts Poultry Society has adopted, for the sue of its members, an official poultry products guarantee seal for both eggs and dressed poultry for the market.

The use of the seal is limited to those members of the society who will agree to the following rules:—

(1) That poultry and eggs shall be produced under clean and sanitary conditions.

(2) The poultry and killing houses shall be open at all reasonable times to inspection by members of the executive committee of said association.

(3) Eggs shall be gathered at least once a day, and when shipped or sold shall be not more than seven days old.

(4) No unwholesome food shall be fed to the poultry.

(5) Shells shall be clean in every case.

(6) No eggs which have been in an incubator shall be shipped or sold undersaid seal.

(7) Eggs shall weigh not less than 24 ounces to the dozen.

(8) Dressed poultry shall be fresh killed.

(9) No diseased poultry shall be killed and sold for table use.

(10) The right to use said seal is forfeited whenever this agreement is in any respect violated, the member being held to reimburse said association for all payments and expenses made and incurred by it (after investigation and satisfactory proof) by reason and on account of inferior quality of poultry products shipped or sold under said seal.—The American Agriculturist.

HOW MUCH CAN A HEN EAT?

How much can a hen eat, or how much ought she to eat, is a much discussed topic among certain classes of poultry keepers. Because a hen's appetite varies, depending perhaps on the particular brand of weather, the kind of house she lives in and her own physical condition, which means laying, loafing, brooding, molting, etc., no ironclad rule can be laid down. Health also has to do with the amount of food consumed, and there are no doubt other factors that help to determine whether a hen should eat more or less on any particular day.

The records in the international egg laying contest at Storrs, Ct., seem to show quite conclusively that a hen will consume from 40 to 45 pounds of grain in the course of a year. This means an average daily consumption of about two ounces, or from 12 to 13 pounds per day to each 100 hens. If it be assumed that the average grain mixture weighs 1½ pounds to a quart, then eight quarts or a trifle more would be about the average grain ration for 100 hens each day. This is almost exactly the amount recommended by the Maine station that suggests four quarts corn, two quarts wheat and two quarts oats daily for each 100 laying pullets.

In the laying contest the grain ration consists of wheat and cracked corn only, equal parts by weight. The oats are fed in the mash. This suggestion regarding the amount of grain presupposes that the hens will have before them at all times an ample supply of dry mash to which they can help themselves freely.

If permitted free access to thick sour milk hens will consume just about twice as much by weight of this product as they do of grain. Trials at the Indiana station resulted in the consumption of 93 pounds of milk per year for each laying Leghorn pullet.

Use Rubber To Save Leather —It Is Needed In The War!

Rubber Supply Is Ample— Leather Is Scarce and Very High

Leather is being worn out faster today than ever before in the history of the world, while production is considerably less than a few years ago. While the consequent shortage is keenly felt by the civilian who has to pay half as much again for his own and his family's shoes, it is even more serious for the Government, which must supply hundreds of thousands of soldiers.

Rubber, too, is being used in enormous quantities on account of the war—one British manufacturer, for instance, is working on a rubber boot order for the army which will take 14,000,000 pounds of rubber, fabric and chemicals. But the supply, thanks to the great rubber plantations in Britain's tropical Dominions, is easily keeping up with the demands, and raw rubber, despite a war tax of 7½%, is actually cheaper today than before the war. So, though the fabric and chemicals used cost nearly double, rubber footwear has not gone up very much in price.

These conditions naturally are leading thoughtful, thrifty, patriotic Canadians to save leather just as much as possible by wearing rubbers, overshoes, high rubber boots and heavy farm rubbers. In addition to the very substantial saving in cost, rubber footwear has decided advantages for wet or cold weather around the farm or in the woods. The men like its warm, dry comfort under all conditions, and the women like the way it sheds the dirt instead of bringing it in to melt and track around the house. For the children, too, particularly if they are walking a long way to school, rubbers and overshoes mean a great deal in warmth, comfort and protection against colds.

"Doing Without" Rubbers or Overshoes Is Simply Thoughtless Extravagance

18

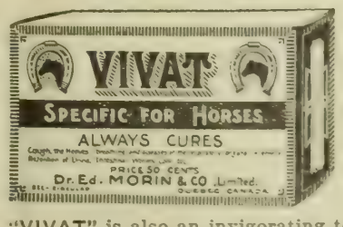
A DAY'S WORK

"Fifty cents a dozen for eggs," gasped the woman; "why, that's over four cents for one egg."

"Yes'm," replied the grocer, "but you must remember that an egg is a whole day's work for a hen."

Hens that lay soft-shelled eggs either lack shell-forming material in the fodd, including oyster shells, or they are not in the best of condition.

The Specific for Diseases of Horses
"VIVAT"



is an active remedy in Powder form which will cure your horse of Coughs, Heaves, Colic and Worms.

"VIVAT" is also an invigorating tonic which gives strength and power to WORK and RACE HORSES.

Well known veterinarians have successfully used it in critical cases. A 50c box will be sufficent for six days' treatment.

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FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

SANTA CLAUS AND LITTLE BILLEE

By John Kendrick Bangs

He was only a little bit of a chap, and so, when for the first time in his life he came into close contact with the endless current of human things, it was as hard for him to "stay put" as for some wayward little atom of flotsam and jetsam to keep from tossing about in the surging tides of the sea.

His mother had left him there in the big toyshop, with instructions not to move until she came back, while she went off to do some mysterious errand. She thought, no doubt, that with so many beautiful things on every side to delight his eye and hold his attention, strict obedience to her commands would not be hard. But, alas, the good lady reckoned not upon the magnetic power of attraction of all those lovely objects in detail. She saw them only as a mass of wonders which, in all probability, would dazzle his vision as to leave him incapable of movement; but Little Billie was not so indifferent as all that.

When a phonograph at the other end of the shop began to rattle off melodious tunes and funny jokes, in spite of the instructions he had received, off he pattered as fast as his little legs would carry him to investigate. After that, forgetful of everything else, finding himself caught in the constantly moving stream of Christmas shoppers, he was borne along until he found himself at last out upon the street—alone, free and independent.

It was great fun, at first. By and by, however, the afternoon waned; the sun, as if anxious to hurry along the dawn of Christmas day, sank early to bed; and the electric lights along the darkening highway began to pop out here and there like so many merry stars come down to earth to celebrate the gladest time of all the year. Little Billee began to grow tired; and then he thought of his mamma and tried to find the shop where he had promised to remain quiet until her return. Up and down the street he wandered until his little legs grew weary, but there was no sign of the shop, nor of the beloved face he was seeking.

Once again, and yet once again after that, did the little fellow traverse that crowded highway his tears getting harder and harder to keep back, and then—joy of joys—whom should he see walking slowly along the sidewalk but Santa Claus himself! The saint was strangely decorated with two queer looking boards, with big red letters on them, hung over his back and chest; but there was still that same kindly, gray-bearded mings, and the same dear old cap that face, the red cloak with the fur trim—the children's friend had always worn in the pictures of him that Little Billee had seen.

With a glad cry of happiness, Little Billee ran to meet the old fellow, and put his hand gently into that of the saint. He thought it very strange that Santa Claus's hand should be so red and cold and rough, and so chapped; but he was not in any mood to be critical. He had been face to face with a very disagreeable situation. Then, when things had seemed blackest to him, everything had come right again; and he was too glad to take more than passing notice of anything strange and odd.

Santa Claus, of course, would recognize him at once, and would know just how to take him back to his mamma at home—wherever that might be. Little Billee had never thought to inquire just where home was. All he knew was that it was a big gray stone house on a long street somewhere, with a tall iron railing in front of it, not far from the park.

"Howdidoo, Mr. Santa Claus " said Little Billee, as the other's hand unconsciously tightened over his own.

"Why, howdidoo, kiddo?" replied the old fellow, glancing down at his new-found friend, with surprise gleaming from his deep-set eyes. "Where did you drop from?"

"Oh, I'm out," said Little Billee bravely. "My mamma left me a little while ago while she went off about something, and I guess I got losted."

"Very likely," returned the old saint with a smile. "Little two-by-four fellers are apt to get losted when they start it on their own hook, specially days like these, with such crowds hustlin' around."

"But it's all right now," suggested Little Billee hopefully. "I'm found again, ain't I?"

"Oh, yes, indeedy, you're found all right, kiddie," Santa Claus agreed.

"And pretty soon you'll take me home again, won't you?" said the child.

"Surest thing you know," answered Santa Claus, looking down upon the bright but tired little face with a comforting smile. "What might your address be?"

"My what?" asked Little Billee.

"Your address?" repeated Santa Claus. "Where do you live?"

The answer was a ringing peal of childish laughter.

"As if you didn't know that!" cried Little Billee, giggling.

"Ha, ha!" laughed Santa Claus, "Can't fool you, can I? It would be funny if, after keeping my eye on you all these years since you was a baby I didn't know where you lived, eh?"

"Awfully funny," agreed Little Billee. "But tell me, Mr. Santa Claus, what sort of a boy do you think I have been?" he added with a shade of anxiety in his voice.

"Pretty good—pretty good," Santa Claus answered, turning in his steps and walking back again along the path he had just traveled—which Little Billee thought was rather a strange thing to do. "You've got more white marks than black ones—a good many more—a hundred and fifty times as many, kiddie. Fact is, you're all right—'way up among the good boys; though once or twice last summer, you know—"

"Yes, I know," said Little Billee meekly, "but I didn't mean to be naughty."

"That's just what I said to the bookkeeper," said Santa Claus, "and so we gave you a gray mark—half white and half black—that doesn't count either way, for or against you."

"Thank you sir," said Little Billee, much comforted.

"Don't mention it; you are very welcome, kiddie," said Santa Claus, giving the youngster's hand a gentle squeeze.

"Why do you call me 'kiddie' when you know my name is Little Billee?" asked the boy.

"Oh, that's what I call all good boys," explained Santa Claus. "You see, we divide them up into two kinds—the good boys and the naughty boys—and the good boys we call kiddies, and the naughty boys we call caddies, and there you are."

Just then Little Billee noticed for the first time the square boards that Santa Claus was wearing.

"What are you wearing those boards for, Mr. Santa Claus?" he asked.

If the lad had looked closely enough, he would have seen a very unhappy look come into the old man's face; but there was nothing of it in his answer.

"Oh, those are my new-fangled back and chest protectors, my lad," he replied. "Sometimes we have bitter winds blowing at Christmas, and I have to be ready for them. It wouldn't do for Santa Claus to come down with the sneezes at Christmas-time, you know—no, siree! This board in front keeps the wind off my chest, and the one behind keeps me from getting rheumatism in my back. They are a great protection against the weather."

"I'll have to tell my papa about them," said Little Billee, much impressed by the simplicity of this arrangement. "We have a glass board on the front of our ortymobile to keep the wind off Henry—he's our shuffler—but papa wears a fur coat, and sometimes he says the wind goes right through that. He'll be glad to know about these boards."

"I shouldn't wonder," smiled Santa Claus. "They aren't very becoming, but they are mighty useful. You might save up your pennies and give your papa a pair like 'em for his next Christmas."

Santa Claus laughed as he spoke; but there was a catch in his voice which little Billee was too young to notice.

"You've got letters printed there," said the boy, peering around in front of his companion. "What do they spell? You know I haven't learned to read yet."

"And why should you know how to read at your age?" said Santa Claus. "You're not more than——"

"Five last month," said Little Billee proudly. It was such a great age!

"My, as old as that?" cried Santa Claus. "Well, you are growing fast! Why, it don't seem more than yesterday that you was a pink-cheeked babby, and here you are big enough to be out alone! That's more than my little boy is able to do."

Santa Claus shivered slightly, and Little Billee was surprised to see a tear glistening in his eye.

"Why, have you got a little boy?" he asked.

"Yes, Little Billee," said the saint. "A poor, white-faced, little chap about a year older than you, who—well, never mind, kiddie—he's a kiddie, too—let's talk about something else, or I'll have icicles in my eyes."

"You didn't tell me what those letters on the boards spell," said Little Billee.

"'Merry Christmas to Everybody!'" said Santa Claus. "I have the words printed here so that everybody can see them; and if I miss wishing anybody a merry Christmas, he'll know I meant it just the same."

"You're awful kind, aren't you?" said Little Billee, squeezing his friend's hand affectionately. "It must make you very happy to be able to be so kind to everybody!"

Santa Claus made no reply to this remark, beyond giving a very deep sigh, which Little Billee chose to believe was evidence of a great inward content. They walked on now in silence for Little Billee was beginning to feel almost too tired to talk, and Santa Claus seemed to be thinking of something else. Finally, however, the little fellow spoke.

"I guess I'd like to go home now, Mr. Santa Claus," he said. "I'm tired, and I'm afraid my mamma will be wondering where I've gone to."

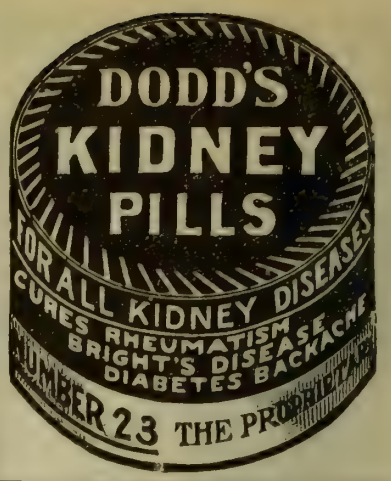
"That's so, my little man," said Santa Claus, stopping short in his walk up and down the block. "Your mother will be worried for a fact; and your father, too— I know how I'd feel if my little boy got losted and hadn't come home at dinner-time. I don't believe you know where you live, though—now honest! Come! 'Fess up, Billee, you don't know where you live, do you?"

"Why, yes, I do," said Little Billee. "It's in the big gray stone house with the iron fence in front of it, near the park."

"Oh, that's easy enough," laughed Santa Claus nervously. "Anybody could say he lived in a gray stone house with a fence around it, near the park; but you don't know what street it's on, nor the number, either, I'll bet fourteen wooden giraffes against a monkey on a stick!"

"No, I don't," said Little Billee frankly; "but I know the number of our ortymobile. It's—!N. Y.'"

"Fine!" laughed Santa Claus. "If



A WOMAN'S MESSAGE TO WOMEN.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations bladder weakness, constipation, catarrhal conditions, pain in the sides regularly or irregularly, bloating or unnatural enlargements, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpation, hot flashes, dark rings under the eyes, or a loss of interest in life, I invite you to write and ask for my simple method of home treatment, with ten days' trial entirely free and postpaid, also references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by this method. Write today. Address: Mrs. M. Summers, Box 309, Windsor, Ont.

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It is not an easy matter to get a medicine that children like, or to force them to take one they don't like. Most mothers know that a cough medicine, while palatable, should contain no drug injurious to the child. The great popularity of

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is explained by the fact that it contains no opium or narcotic of any kind, and at the same time is so pleasant and agreeable to the taste that children like it. For this reason it is a favorite with the mothers of young children.

Yours for health,

—Granny Chamberlain

28

Coffee Icing

Cook two Cups of Lantic Sugar with half a cup of strong coffee until the syrup forms a soft ball when dropped in cold water. Add a teaspoonful of vanilla extract and beat until cold enough to spread.

Lantic Sugar

"The All-Purpose Sugar"

is specially good for cake baking on account of the *fine* granulation.

The Sugar with the red ball trade-mark

Packed in 100-lb. Bags

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you really were lost, it would be a great help to know that; not being lost, as you ain't, why, of course, we can get along without it. It's queer you don't know your last name, though."

"I do, too, know my last name!" blurted Little Billee. "It's Billee. That's the last one they gave me, anyhow."

Santa Claus reflected for a moment, eyeing the child anxiously.

"I don't believe you even know your papa's name," he said.

"Yes, I do," said Little Billee indignantly. "His name is Mr. Harrison."

"Well, you are a smart little chap," cried Santa Claus gleefully. "You got it right the very first time, didn't you? I really didn't think you knew. But I don't believe you know where your papa keeps his bakeshop, where he makes all those nice cakes and cookies you eat."

Billee began to laugh again.

"You can't fool me, Santa Claus," he said. "I know my papa don't keep a bakeshop just as well as you do. My papa owns a bank."

"Splendid! Made of tin, I suppose, with a nice little hole at the top to drop pennies into?" said Santa Claus.

"No, it ain't either!" retorted Little Billee. "It's made of stone, and has more than a million windows in it. I went down there with my mamma to papa's office the other day, so I guess I ought to know."

"Well, I should say so" said Santa Claus. "Nobody better. By the way, Billee, what does your mamma call your papa? "Billee," like you?" he added.

"Oh, no, indeed," returned Little Billee. "She calls him papa, except once in a while when he's going away and then she says, 'Good-by, Tom.'"

"Fine again!" said Santa Claus, blowing upon his fingers, for, now that the sun had completely disappeared over in the west, it was getting very cold. "Thomas Harrison, banker," he muttered to himself. "What, with the telephone book and the city directory, I guess we can find our way home with Little Billee."

"Do you think we can go now, Mr. Santa Claus?" asked Little Billee, for the cold was beginning to cut through his little coat, and the sandman had started to scatter the sleepy seeds all around.

"Yes, sirree!" returned Santa Claus promptly. "Right away off now instantly at once! I'm afraid I can't get my reindeer here in time to take us up to the house, but we can go in the cars—hum! I don't know whether we can or not, come to think of it. Ah, do you happen to have ten cents in your pocket?" Santa added with an embarrased air. "You see, I've left my pocketbook in the sleigh with my toy-pack; and, besides, mine is only toy money, and they won't take that on the cars."

"I got twenty-fi' cents," said Little Billee proudly, as he dug his way down into his pocket and brought the shining silver piece to light. "You can have it, if you want it."

"Thank you," said Santa Claus, taking the proffered coin. "We'll start home right away; only come in here first, while I telephone to Santaville, telling the folks where I am."

He led the little fellow into a public telephone station, where he eagerly scanned the names in the book. At last it was found—"Thomas Harrison, seven-six-five-four Plaza." And then, in the seclusion of the telephone booth, Santa Claus sent the gladdest of all Christmas messages over the wire to two distracted parents:

"I have found your boy wandering in the street. He is safe, and I will bring him home right away."

Fifteen minutes later, there might have been seen the strange spectacle of a foot-sore Santa Claus leading a sleepy little boy up Fifth avenue to a cross street, which shall be nameless. The boy vainly endeavored to persuade his companion to "come in and meet mamma."

"No, Billee," the old man replied sadly, "I must hurry back. You see, kiddie, this is my busy day. Besides, I never go into a house except through the chimney. I wouldn't know how to behave, going in at a front door."

But it was not to be as Santa Claus willed, for Little Billee's papa and his mamma, and his brothers and sisters, and the butler and the housemaids, and two or three policemen, were waiting at the front door when they arrived.

"Aha!" said one of the police, seizing Santa Claus roughly by the arm. "We've landed you, all right! Where have you been with this boy?"

"You let him alone!" cried Little Billee, with more courage than he had ever expected to show in the presence of a policeman. "He's a friend of mine."

"That's right, officer," said Little Billee's father; "let him alone—I haven't entered any complaint against this man."

"But you want to look out for these fellers, Mr. Harrison," returned the officer. "First thing you know they'll be makin' a trade of this sort of thing."

"I'm no grafter!" retorted Santa Claus indignantly. I found the little chap wandering along the street and as soon as I was able to locate where he lived, I brought him home. That's all there is to it."

"He knew where I lived all along," laughed Little Billee, "only he pretended he didn't just to see if I knew."

"You see sir," said the officer "it won't do him any harm to let him

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MILBURN'S

LAXA-LIVER PILLS

THEY NEVER FAIL TO DO GOOD.

Mrs. J. Shellsworth, Halifax, N.S., writes: "I take pleasure in writing you concerning the great value I have received by using your Milburn's Laxa-Liver Pills for a sluggish liver. When my liver got bad I would have severe headaches, but after using a couple of vials of your pills I have not been bothered with the headaches any more."

Milburn's Laxa-Liver Pills clean away all waste and poisonous matter from the system, and prevent as well as cure all complaints arising from a liver which has become inactive.

Milburn's Laxa-Liver Pills are 25c. a vial, or 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

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"THE FRENCH PRIZE

For the Cure of

COUGHS AND BRONCHIAL TROUBLES

The hall-mark of scientific approval was conferred upon Veno's Lightning Cough Cure when it won the Grand Prix and Gold Medal at the International Health Exhibition, Paris, 1910; the approval of the public is expressed in a reputation wide as the British Empire. Veno's has the largest sale of its class in the world. It is made in Great Britain by British skill, financed by British capital, and sold wherever the British flag flies. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

cool his heels——"

"It is far better that he should warm them, officer," said Mr. Harrison kindly. "And he can do that here. Come in, my man," he added, turning to Santa Claus with a grateful smile. "Just for a minute, anyhow. Mrs. Harrison will wish to thank you for bringing our boy back to us. We have had a terrible afternoon."

"That's all right, sir," said Santa Claus modestly. "It wasn't anything, sir. I didn't really find him—it was him as found me, sir. He took me for the real thing, I guess."

Nevertheless, Santa Claus, led by Little Billee's persistent father, went into the house. Now that the boy could see him in the full glare of many electric lights, his furs did not seem the most gorgeous things in the world. When the flapping front of his red packet flew open, the child was surprised to see how ragged was the thin gray coat it covered; and as for the good old saint's comfortable stomach—strange to say it was not!

"I—I wish you all a merry Christmas," faltered Santa Claus; "but I really must be going, sir——"

"Nonsense!" cried Mr. Harrison. "Not until you have got rid of this chill, and——"

"I can't stay, sir," said Santa. "I'll lose my job if I do."

"Well, what if you do? I'll give you a better one," said the banker.

"I can't—I can't!" faltered the man. "—I—I've got a Little Billee of my own at home waitin' for me, sir. If I hadn't," he added fiercely, "do you suppose I'd be doin' this?" He pointed at the painted boards, and shuddered. "It's him as has kept me from—from the river!" he muttered hoarsely; and then this dispenser of happiness to so many millions of people all the world over sank into a chair, and, covering his face with his hands, wept like a child.

"I guess Santa Claus is tired, papa," said Little Billee, snuggling up closely to the old fellow and taking hold of his hand sympathetically. "He's been walkin' a lot today."

"Yes, my son," said Mr. Harrison gravely. "These are very busy times for Santa Claus, and I guess that, as he still has a hard night ahead of him, James had better ring up Henry and tell him to bring the car around right away, so that we may take him back—to his little boy. "We'll have to lend him a fur coat to keep the wind off, too, for it is a bitter night."

"Oh," said Little Billee, "I haven't told you about these boards he wears. He has 'em to keep the wind off, and they're fine, papa!" Little Billee pointed to the two sign boards which Santa Claus had leaned against the wall. "He says he uses 'em on cold nights," the lad went on. "They have writing on 'em, too. Do you know what it says"

"Yes," said Mr. Harrison, glancing at the boards. "It says 'If You Want a Good Christmas Dinner for a Quarter, Go to Smither's Cafe.'"

"Papa's trying to fool me, just as you did when you pretended not to know where I lived, Santa Claus," he said, looking up into the old fellow's face, his own countenance brimming over with mirth. "You mustn's think he can't read, though," the lad added hastily. "He's only joking."

"Oh, no, indeed, I shouldn't have thought that," replied Santa Claus, smiling through his tears.

"I've been joking, have I?" said Little Billee's papa. "Well, then, Mr. Billiam, suppose you inform me what it says."

"'Merry Christmas to Everybody,'" said Little Billee proudly. "I couldn't read it myself, but he told me what it said. He has it printed there so that if he misses saying it to anybody, they'll know he means it just the same."

"By jove, Mr. Santa Claus," cried Little Billee's papa, grasping the old man warmly by the hand, "I owe you ten million apologies! I haven't believed in you for many a long year; but now, sir, I take it all back. You do exist, and, by the great horn spoon you are the real thing!"

Little Billee had the satisfaction of acting as host to Santa Claus at a good, luscious dinner, which Santa Claus must have enjoyed very much, because, when explaining why he was so hungry, it came out that the poor old chap had been so busy all day that he had not had time to get any lunch—no not even one of those good dinners at Smither's cafe, to which Little Billee's father had jokingly referred. And after dinner Henry came with the automobile, and, idding everybody good night, Santa Claus and Little Billee's papa went out of the house together.

Christmas morning dawned, and Little Billee awoke from wonderful dreams of rich gifts, and of extraordinary adventures with his new-found friend, to find the reality quite as splendid as the dream things. Later, what was his delight when a small boy, not much older than himself—a pale, thin, but playful little fellow—arrived at the house to spend the day with him, bringing with him a letter from Santa Claus himself! This was what the letter said:

"Dear Little Billee:

"You must not tell anybody except your papa and mamma, but the little boy who brings you this letter is my little boy, and I am going to let you have him for a playfellow for Christmas day. Treat him kindly for his papa's sake, and if you think his papa is worth loving tell him so. Do not forget me, Little Billee, I shall see you often in the future, but I doubt if you will see me. I am not going to return to Twenty-third street again, but shall continue my work in the Land of Yule, in the Palace of Good Will, whose beautiful windows look out upon the homes of all good children.

"Good-by, Little Billee, and the happiest of happy Christmases to you and all of yours, affectionately.

"SANTA CLAUS."

When Little Billee's mamma read this to him that Christmas morning, a

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stray little tear ran down her cheek and fell upon Little Billee's hand.

"Why, what are you crying for, mamma?" he asked.

"With happiness, my dear little son," his mother answered. "I was afraid yesterday that I might have lost my little boy forever, but now ——"

"You have an extra one thrown in for Christmas, haven't you?" said Little Billee, taking his new playmate by the hand. The visitor smiled back at him with a smile so swe t that anybody would have guessed that he was the son of Santa Claus.

As for the latter, Little Billee has not seen him again, but down at his father's bank there is a new messenger, named John, who has a voice so like Santa Claus's voice that whenever Little Billee goes down there in the motor to ride home at night with his papa, he runs into the bank and has a long talk with him, just for the pleasure of pretending that it is Santa Claus he is talking to. Indeed, the voice is so like that once a sudden and strange idea flashed across Little Billee's mind.

"Have you ever been on Twenty-third street, John?" he asked.

"Twenty-third street?" replied the messenger scratching his head as if it very much puzzled "what's that?"

"Why it's a street," said Little Billee rather vaguely.

"Well, to tell you the truth, Billee," said John. "I've heard tell of Twenty-third street, and they say it is a very beautiful and interesting spot. But, you know. I don't get much chance to travel. I've been too busy all my life to go abroad."

"Abroad!" roared Little Billee, grinning at John's utterly absurd mistake. "Why, Twenty-third street ain't abroad! It's uptown—near—oh, near, Twenty-second street."

"Really," returned John, evidently tremendously surprised. "Well, well, well! Who'd have thought that? Well if that's the case, some time when I get a week off I'll have to go and spend my vacation there!"

From which Little Billee concluded that his suspicion that John might be Santa Claus in disguise was entirely without foundation in fact.

FROST INJURY.—DIFFERENT WAYS IN WHICH APPLE TREES ARE AFFECTED

(Continued from page 148)

most part, took the form of trunk killing, the upper part of the trunk unprotected by snow being apparently dried out. The result was that the bark and cambium all around the trunk were killed. At Ottawa quite a number of trees was lost in this way. The reason, in our judgment, why the trunk was killed and the top uninjured was that the top had more moisture and was not dried out sufficiently to be killed. In past experience it has been noticed at Ottawa that sometimes the younger growth of apple trees will come through the winter uninjured, while the older parts of the branches will be killed. Trees in sod orchards will sometimes die from 'body killing' when those which are cultivated do not, the latter having more moisture. In a letter received from Mr. A. P. Stevenson, Morden, Man., he writes:—'Outside of sunscald, our chief winter injury is killing back. This is serious when the following winter conditions prevail: Light snowfall, high winds and extremely low temperature continuing for some time. Some varieties are killed to the snow-line. Two years ago we had a winter like that, and another seven years previous to that. The trees are simply frozen dry.' There have been some indications at Ottawa that body-killing or trunk injury has occurred under the veneer protector. This may have been due to ice held about the tree too long by the protector.

Two means of prevention of body-killing may be mentioned. One, to see that the trees have made vigorous growth the previous summer, not forgetting, however, to have the wood well ripened. The second is to plant windbreaks to check the force of the wind. In the Northwest the trunks are sometimes protected by sacking or veneer. It is even suggested by those who live in the West to make a box around the trunk with about six inches space and fill it with soil.

Killing of dormant buds.—While the killing of dormant buds evidently comes about partly from the same cause as body-killing, namely, a drying out in cold weather. it would seem that buds are more tender than wood, and their life is destroyed at certain minimum temperatures. Not only are fruit buds destroyed when the twig is not injured, but leaf buds as well. The buds being more exposed to the air may dry out when the wood does not. The buds of apples are not killed in Canada to the same extent as the buds of plums and cherries. In the province of Quebec and the colder parts of Ontario the buds of the European and Japanese plums and cherries are nearly always injured more or less in winter. This seems undoubtedly to be due to the drying out of the twigs, for when these fruits are grown near bodies of open water in winter they do well. The marked success of Mr. Aug. Dupuis, and others, in growing the European plums along the Lower St. Lawrence is well known. But what are the conditions there? It is only within a comparatively short distance of the river that these fruits succeed. When we get further back from the river the buds are killed as in other parts of the province. The reason of the suc-

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Dr. A. W. Chase's Kidney-Liver Pills

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of the
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C. R. B. BRYAN, Secretary.
Truro, N. S.

cessful culture of plums and cherries is evidently due to the fact that from the water there rises in winter a fog which blowing over the land keeps the air moist enough to save the buds from death. It will be remembered that it required dryness with cold to kill the roots of trees. When the roots were moist they were little injured, even if exposed to the same temperatures. There is, as yet, no very practicable way to prevent this drying out of the fruit buds. The fact that the parts of the trees which are under the snow produce fruit, when the parts which are exposed do not, suggests the plan of bending over the trees so that they will be covered, which has been done successfully by some growers. Another plan which we think deserves further experiment is low training of trees growing them with horizontal arms, for instance, which would be under the snow. A third plan is the breeding of varieties having hardier fruit buds. This we believe should, and is being done.

Winter-killing of swollen buds.—During winters with very changeable weather when some days are quite warm there is often a premature swelling of buds, especially of the cherry, plum and peach. These warm spells may be followed by cold weather, and there may be several such changes before spring. The buds being swollen and more or ess active are more subject to injury from frost and changes than the dormant buds and the result is that they are kiled. Apple buds do not swell readily and hence are seldom injured from this cause in Canada, except it may be in the prairie provinces, although just before the flowers open if there are severe frosts much injury may occur. Great injury is often caused in the peach districts by the kiling of swollen buds, and in the province of Quebec injury to the buds of plums and cherry is no doubt done when they are in this condition. It was long thought that if the ground could be kept frozen about the trees it would prevent the buds from swelling as the roots would thus be kept in an inactive condition, but it has been proved over and over again that this has no effect whatever in delaying the swelling of the buds. The expanding of the willow buds in our swamps before ice is gone is a good example of how buds will develop while the roots may yet be in a frozen condition. There is sufficient sap in the tree to supply the buds and even the leaves when they first expand and when the temperature about the top of the tree is high enough growth begins. Swelling of buds can be prevented by bending over the trees as suggested to prevent killing of dormant buds, but this could not very well be done on a large scale. A few years ago experiments were conducted at the Missouri station to determine if whitewashing the trees would retard the buds, the principle being used that white surfaces do not absorb heat as readily as darker ones. It was found that the whitewashing did retard the buds and in the case of peaches would sometimes prevent injury from frost. An experiment was tried at Ottawa in whitewashing plums and cherries, and it was found that it retarded the swelling of the buds. This means of prevention is not, however, a very practicable one as it is difficult to get the whitewash to cover the branches well for a long period. After further investigations at the Missouri station, it was found that the buds of varieties of peaches having the lightest coloured twigs required higher temperatures to cause them to swell than those with darker coloured twigs, and the former suffered less from killing than the latter. Not having in these lighter twigged varieties the kinds of peaches for commercial purposes the Missouri station is now at work breeding good varieties with light coloured twigs. It was also found at the Missouri station that the buds of peaches which matured their wood late did not swell as readily as those which were well ripened and thus were less liable to injury from frost.

Frost Injury to Flowers.

Apple flowers in bud will stand more frost than when they are fully open. When the petals fall less frost will cause injury than when the trees are in full bloom. From five to seven degrees Fahr. of frost are likely to cause severe injury to apples when in full bloom and after the bloom has fallen from four to five degrees may do much harm. Much depends on the length of time the flowers are frozen and on the weather following the freeze. If the flowers have been injured by frost, an examination after the petals are open, if the frost occurs when they are in bud, will reveal the centre of the flower or pistil discoloured or brownish. The fruit will not set when flowers are injured in this way. The frost may, however, come after pollination has taken place when the fruit may set.

Russeting of fruit Due to Frost

Sometimes frost affects the fruit when it is still quite small and later on the evidence of the injury will be a russeted area usually about the calyx end but sometimes at the stem end of the fruit and sometimes as a band of russet around the fruit. This, no doubt, is often attributed to some other cause than frost.

You are Losing More Money on Untapped Maple Trees Than You Make on Any Other Crop

Any farmer that has an untapp d maple grove is overlooking the biggest opportunity to make money on his farm. Every crop that you plant in the ground requires seed, fertilizing, ploughing, cultivating, cleaning and a number of other operations that take time and money. Too much dry, wet or cold weather may mean little or no crop.

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Maple syrup and sugar now command the best prices in their history. If you have maple trees let us tell you how to make the most out of them with little time and effort.

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SHORT COURSES AT THE N. S. A. C.

(Continued from page 147)

in town. Morning sessions commence at 8.30, afternoon sessions at 1.30.

If a sufficient number of women or girls express the desire, the department will put on a longer course of from four to six weeks. Please state in your application your desires in this matter.

For the past three years the Annual Convention of the Womens' Institutes of Nova Scotia has been held during the second week of the January Short Course. It has been thought better to postpone the Convention until June, when it is believed a larger and more representative attendance will be secured.

Detailed programs of the short course will be prepared later, and may be procured on application to the undersigned.

M. CUMMING,
Principal
Agricultural College, Truro.
MISS JENNIE A. FRASER,
Superintendent,
Womens Institutes,
New Glasgow.

General Information for Men and Women

TUITION IS FREE. Students are admitted from every province of Canada and also from abroad on the same basis as those from Nova Scotia.

BOARD may be procured in Truro at from $4.50 to $7.00 per week. A list of boarding houses may be had on application but students are generally advised not to secure boarding houses until their arrival in town. Representatives from the College will meet the incoming trains and assist students in personally selecting boarding houses.

RAILWAY FARES. All railways in the Maritime Provinces grant a single fare on the Standard Certificate plan. **Buy a single fare ticket to Truro. Ask for a Standard Certificate which when signed at the College will entitle you to a free return home. You must buy this ticket at a station. You cannot get a Certificate on the train.** Understand that unless you bring a Standard Certificate you cannot secure the special rate. If you are not clear on this point **show this paragraph to your ticket agent.**

Attend if possible from the beginning to the end. If you cannot afford that length of time, make plans to attend for one or more days. Write for detailed time table and come on days when the subjects you are most interested in are taught.

For further information address
M. CUMMING, Principal,
Truro, Nova Scotia.

The Dominion Atlantic Railway offer a rate of 2c a mile one way mileage and will return free all students who attend all the sessions. Those who do not attend all the sessions will pay 1c per mile for return trip.

THE ANNUAL CONVENTION AND POTATO SHOW OF THE NEW BRUNSWICK POTATO GROWERS ASSOCIATION

At a meeting of the Executive Board of the New Brunswick Potato Growers Association, held on November 29th, it was decided to hold the second annual meeting of the Association in the Fisher Agricultural School at Woodstock on December 27th and 28th. In view of the success which attended the initial convention held last year, when nearly 200 potato growers attended, the Executive Board are looking forward to an increased interest being taken in this by the farmers who are finding potatoes to be such an important crop. The success which has attended the raising of potatoes has been attained by very little effort on the part of the growers and much more could be accomplished if the farmers were thoroughly organized for the purpose of studying this industry.

An extensive programme is being prepared and all phases of the potato industry will receive due consideration. Among the topics to be discussed, will be:—"Improvement of methods of cultivation with the hope of increasing the yield at a lessened cost"; "A discussion of the present fertilizer situation", laying particular emphasis on potash; "Selection of seed potatoes for the purpose of increasing the yield and improving the quality"; "Varieties of potatoes suitable for New Brunswick conditions", placing special emphasis on the necessity for raising one or two standard varieties which are high yielders and at the same time suitable for the domestic and foreign markets; "The importance of grading, standardizing and certifying table and seed potatoes"; "The present price and the possible price for seed potatoes in the spring, and the prospects for the crop of 1917". Addresses will also be given on potato diseases and general methods of handling the potato crop.

The Association is greatly indebted to the Potato Exchange for having made a donation of $300.00 to be used in furthering its work. This money will be spent on prizes, from $25.00 for first prizes, down to $1.00. All varieties may be exhibited, but particular attention will be paid to

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the more popular and valuable commercial varieties such as Irish Cobblers, Green Mountains, Carman No. 1, Delawares, Cumming's Pride, and some of the less known varieties. Prizes will also be offered for the best collection of varieties and the best advertising displays.

The following exhibits will be displayed:—The Dominion Experimental Farms Agricultural Exhibition Exhibit; Varieties of potatoes by the Dominion Experimental Farms; Potato diseases by the Division of Botany, Dominion Experimental Farms; Potato machinery; exhibits by the manufacturers.

This is a potato growers meeting and those interested in potato growing cannot afford to stay away. Every problem will be discussed, including varieties, fertilizers, cultivation, diseases, and methods of improved marketing and standardization. Some of the best authorities in America will be present to address the convention.

Circulars will be distributed at an early date, including the prize list, and making suggestions on the methods of selecting potatoes for exhibiting. Anyone wishing further information in connection with the convention should write to the Secretary, G. C. Cunningham, Fredericton, N. B.

THE MARITIME POULTRY SHOW

(Continued from page 145)

Winners in Utility Breeding Pens

White Wyandottes—1, Mrs. C. W. Fawcett.

Silver Wyandottes—1, Mrs. Evans Kyle.

Buff Wyandottes—1, Wm. Beazley, Halifax, N. S.

Plymouth Rock—1, Albert Boswall.

Dorkings—1, John P. Bain; 2, Day Bros.

Rhode Island Reds, S. C.—1, E. C. Griffin, Port Williams, N. S.

White Leghorns—1, Mrs. C. W. Fawcett; 2, Victor G. Fuller, Amherst, N. S.

Any Other Variety—1, Day Bros.

Winners in Turkeys, Geese and Ducks

Bronze Turkey over 1 yr., male—1, W. J. Pickard; 2 and 3, J. Titus Barnes, Sussex, N. B.; 4, Albert Boswall.

Bronze Turkey over 1 yr., female—1, W. J. Pickard; 2, Albert Boswall; 3 and 4, J. Titus Barnes.

Bronze Turkey over 1916, male—1 and 2—J. Titus Barnes; 3, Albert Boswall.

Bronze Turkey over 1916, female—1 and 3, J. Titus Barnes; 2, Albert Boswall; 4, E. C. Griffin.

Turkeys A. O. V. over 1 yr., male—1, Albert Boswall.

Turkeys A. O. V. over 1 yr., female—1, Albert Boswall.

Turkeys A. O. V. 1916 female—1, Albert Boswall.

Geese Toulouse over 1 yr., male—1, Albert Boswall.

Geese Toulouse over 1 yr., female—1, Albert Boswall.

Geese Toulouss, 1916 male—1 and 2, Albert Boswall.

Geese Toulouse, 1916 female—1 and 2, Albert Boswall.

Geese Embden or Bremen, over 1 yr., male—1 and 2, Albert Boswall; 3, J. Titus Barnes.

Geese Embden or Bremen, over 1 yr. female—1 and 3, Albert Boswall; 2, J. Titus Barnes.

Geese Embden or Bremen, 1916 male—1, 3 and 4, Albert Boswall; 2, J. Titus Barnes.

Geese Embden or Bremen 1916 female—1, 3 and 4, Albert Boswall; 2, J. Titus Barnes.

Geese African, over 1 yr., male—1 and 4, J. Titus Barnes; 2, E. C. Griffin; 3, Albert Boswall.

Geese African, over 1 yr., female—1, E. C. Griffin; 2 and 4, J. Titus Barnes; 3, Albert Boswall.

Geese African, 1916 male—1, E. C. Griffin; 2 and 3, Albert Boswall.

Geese African, 1916 female—1, E. C. Griffin; 2 and 3, Albert Boswall.

Winners in Ducks.

Pekin Ducks over one year, male—1 and 2, Albert Boswall.

Pekin Ducks over one year, female—1 and 2, Albert Boswall.

Pekin Ducks 1916 male—1 and 2. Albert Boswall; 3, Home Industries Poultry Yards, Halifax, N. S.

Pekin Ducks 1916 female—1 and 2, Albert Boswall; 3, Home Industries Poultry Yards.

Rouen Ducks over one year, male—1, Albert Boswall.

Rouen Ducks over one year, female—1, Albert Boswall.

Rouen Ducks 1916 male—1 and 2, Albert Boswall; 3, Home Industries Poultry Yards.

Rouen Ducks 1916 female—1 and 2, Albert Boswall; 3, Home Industries Poultry Yards.

Indian Runner over one year male—1 and 2, Home Industries Poultry Yards.

Indian Runner over one year female—1 and 2, Home Industries Poultry Yards.

Ducks, A. O. V. over one year male—1 and 2, Albert Boswall; 3, J. L. Curran, Charlottetown.

Ducks, A. O. V. over one year female—1 and 2, Albert Boswall; 3, J. L. Curran.

Ducks, A. O. V. 1916 male—1 and 2, Albert Boswall.

Ducks, A. O. V. 1916 female—1 and 2, Albert Boswall.

Open Classes

Minorcas, Black R. C. cock—1, John P. Bain.

Minorcas, Black R. C. hen—1, John P. Bain.

Minorcas, Black R. C. pullet—1, John P. Bain.

Langshans, Black and White cock—1 and 2. Chas. H. Smyth.

Langshans, Black and White hen—1 and 2, Chas. H. Smyth.

Langshans, Black and White cockerel—1, O. J. Taylor, Moncton, N.B., 2, Chas. H. Smyth.

Langshans, Black and White pullet—1 and 2, O. J. Taylor; 3, Chas. H. Smyth.

Orpington, Buff, S. C. cock—1, Seaman & Stewart; 2, Home Industries Poultry Yards.

Orpington, Buff, S. C. hen—1 and 2, E. S. Tracey, Halifax, N. S.; 3, Seaman & Stewart.

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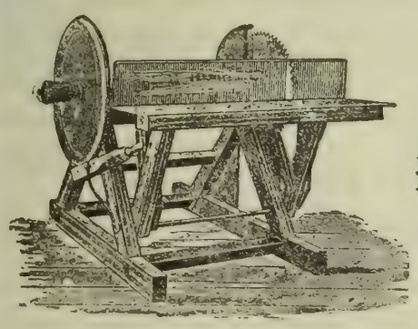
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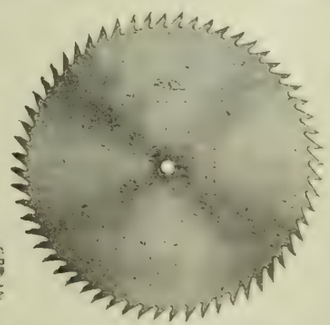
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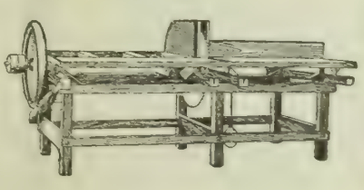
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Orpington, Buff, S. C. pullet—1 and 2, Geo. Curmore.

Orpington, Buff, S. C. hen—3, Geo. Cudmore.

Orpingtons, White A. O. C. hen—1, and 2, R. Carter, Halifax. N S.

Rhode Island Reds, S. C. cock—1 and 2, E. C. Griffin.

Rhode Island Reds, S. C. hen—1, E. C. Griffin; 2, Louise C. Brown.

Rhode Island Reds, S. C. cockerel—1, E. S. Tracey; 2 and 3, E. C. Griffin.

Rhode Island Reds, S. C. pullet—1, 2 and 3, E. C. Griffin.

Rhode Island Reds, R. C. cock—1 and 2, E. S. Tracey.

Rhode Island Reds, R. C. hen—1, E. C. Griffin; 2, E. S. Tracey; 3, Albert Boswall.

Rhode Island Reds, R. C. cockerel—1, E. C. Griffin; 2 and 3, Seaman & Stewart.

Rhode Island Reds, R. C. pullet—1 and 3, E. S. Griffin; 2, Seaman & Stewart.

Red Caps, hen—1, John P. Bain.

Red Caps, cockerel—1 and 2, John P. Bain.

Red Caps, pullet—1 and 2, John P. Bain.

Sussex Red, cock—1. Seaman & Stewart.

Sussex Red, hen—1. Seaman & Stewart.

Sussex Red, cockerel—1, Percy

Carey, Yarmouth; 2, Seaman & Stewart.
Sussex Red, pullet—1 and 2, Seaman & Stewart.
Wyandottes, Golden cock—1 and 2, Mrs. Evans Kyle, Sussex.
Wyandottes, Golden hen—1, John P. Bain; 2 and 3, Mrs. Evans Kyle.
Wyandottes, Golden cockerel—1, Victor G. Fuller, Amherst; 2, E. H. Taylor, Shediac; 2, Mrs. Evans Kyle.
Wyandottes, Golden pullet—1, John P. Bain; 2 and 3, E. H. Taylor.
Wyandottes, Buff cock—1, F. H. Morine, Port Williams; 2, Wm. Beazley, Halifax.
Wyandottes, Buff hen—1, Wm. Beazley.
Wyandottes, Buff cockerel—1, F. H. Morine; 2, Wm. Beazley.
Wyandottes, Buff pullet—1, W. S. Swetman; 2, F. H. Morine.
Wyandottes, Columbian cock—1, Home Industries.
Wyandottes, Columbian hen—1, Home Industries.
Wyandottes, Columbian hen—1, Home Industries.
Wyandottes, Partridge cock—1, J. Titus Barnes, Apohaqui; 2, Thos. Reardon, Sussex.
Wyandottes, Partridge hen—1, Mrs. Evans Kyle; 2 Mrs. Evans Kyle.
Wyandottes, Partridge cockerel—1, Mrs. Evans Kyle.
Wyandottes, Partridge pullet—1 and 2, Mrs. Evans Kyle.
Wyandottes, Silver Laced cock—1, Mrs. Evans Kyle; 2, D. Brace, Moncton, N. B.
Wyandottes, Silver Laced hen—1, D. Brace; 2, Mrs. Evans Kyle.
Wyandottes, Silver Laced cockerel—1 and 2, S. E. McKie, Moncton; 3, Jas. T. Dustan.
Wyandottes, Silver Lace pullet—1, Jas. T. Dustan; 2, S. E. McKie; 3, Mrs. Evans Kyle.
Wyandottes, Silver Pencilled cock—1 and 2, F. H. Morine.
Wyandottes, Silver Pencilled hen—1 and 2, F. H. Morine.
Wyandottes, Silver Pencilled cockerel—1 and 2, F. H. Morine.
Wyandottes, Silver Pencilled pullet—1 and 2, F. H. Morine.
Any Other Variety—1, Scott & Warren; 2, Louise C. Brown.
Any Other Variety—1, Scott & Warren; 2, Louise C. Brown.
Dominiques cock—1, John P. Bain.
Dominiques hen—1 and 2, John P. Bain.
Dorkings, Silver Grey cock—1, John P. Bain; 2, Scott & Warren.
Dorkings, Silver Grey hen—1, Day Bros.; 2 and 3, Thos. Reardon.
Dorkings, Silver Grey cockerel—1, Scott & Warren; 2, John P. Bain.
Dorkings, Silver Grey pullet—1, John P. Bain; 2, Scott & Warren.
Game, Black Reds, hen—1 and 2, Scott & Warren.
Game, Black Reds, cockerel—1, Scott and Warren.
Game, Black Reds, pullet—1, Scott & Warren.
Game, Indian Con & White cock—1, Seaman & Stewart; 2, John P. Bain.
Game, Indian Con & White hen—1 and 2, John P. Bain; 3, Seaman & Stewart.
Game, Indian Con & White cockerel—1, John P. Bain; 2 and 3, J. H. H. Ward, Moncton, N. B.
Game, Indian Con & White pullet—1 and 2, Seaman & Stewart; 3, John P. Bain.
Game, Pile Standard cock—1, Donald Keith, Stellarton.
Game, Pile Standard hen—1, Scott & Warren; 2, Donald Keith.
Game, Pile Standard cockerel—1, Scott & Warren; 2, Donald Keith.
Game, Pile Standard pullet—1, Scott & Warren; 2, Donald Keith.
Game, Red Pit cock—1, Chas. H. Gunn, Moncton.
Game, Red Pit hen—1, Chas. H. Gunn.
Game, A. O. V. hen—1, Donald Keith.
Game, A. O. V. cockerel—1, Donald Keith.
Game, A. O. V. pullet—1, Donald Keith.
Hamburg Black hen—1, Scott & Warren; 2, John P. Bain.
Hamburg Black cockerel—1, John P. Bain; 2, W. S. Swetman.
Hamburg Black pullet—1, John P. Bain; 2, Scott & Warren.
Hamburg G. P. or S. P. cock—1 and 2, Albert Boswall.
Hamburg G. P. or S. P. hen—1 and 2, Albert Boswall.
Hamburg G. P. or S. P. cockerel—1, Albert Boswall.
Hamburgs, G. P. or S. P. pullet—1 and 2, Albert Boswall.
Hamburgs, G. S. or S. S. cock—1, Seaman & Stewart; 2, Albert Boswall.
Hamburgs, G. S. or S. S. hen—1 and 2, Seaman & Stewart.
Hamburgs, G. S. or S. S. cockerel—1, Albert Boswall; 2, John P. Bain.
Hamburgs, G. S. or S. S. pullet—1, John P. Bain; 2, Albert Boswall.
Houdans cock—1, Stanley Seaman, Lewisville; 2, Home Industries Poultry Yards.
Houdans hen—1, Day Bros.; 2, Home Industries.
Houdans cockerel—1, Day Bros.; 2, Stanley Seaman.
Houdans pullet—1, Day Bros.; 2, Stanley Seaman.
Leghorns, Silver hen—1, J. H. H. Ward; 2, J. H. H. Ward.
Leghorns, Silver cockerel—1, J. H. H. Ward.
Leghorns, Silver pullet—1, J. H. H. Ward.
Monorcas Black, S. C. cock—1 and 2, Wm. J. Curmore; 3, E. H. Taylor.
Monorcas Black, S. C. hen—1, Seaman & Stewart; 2 and 3, W. H. Cudmore.
Monorcas Black, S. C. cockerel—1 and 2, W. H. Cudmore; 3, E. H. Taylor.
Monorcas Black, S. C. pullet—1, E. H. Taylor; 2, W. J. Cudmore; 3, E. H. Taylor.
Bamtams, Game Black Red Breasted —, Scott & Warren; 2, Home Industries.
Bamtams, Game Black Red Breasted hen—1, Scott & Warren.
Bamtams, Game Brown-Red cock—1, Home Industries.
Bamtams, Game Brown-Red hen—1, Home Industries.
Bamtams, Game Brown-Red cockerel—1, Spring Park Poultry Yards, Charlottetown.
Bamtams, Game Brown-Red pullet—1, Spring Park Poultry Yards.
Bamtams, Game A. O. V. cock—1, Scott & Warren.
Bamtams, Game A. O. V. hen—1, Scott & Warren.
Bamtams, Game A. O. V. cockerel—1, Spring Park Poultry Yards; 2, Geo. McEchron.
Bamtams, Game A. O. V. pullet—1, Spring Park Poultry Yards; 2, Geo. McEchron.
Bamtams, Seabright G. & S.—1, J. H. H. Ward; 2, Day Bros.
Bamtams, Seabright G. & S. hen—1, Day Bros.; 2, J. H. H. Ward.
Bamtams, Seabright G. & S. pullet—1 and 2, Day Bros.
Bamtams, R. C. White cock—1, Spring Park Poultry Yards.
Bamtams, R. C. Black cock—1, Spring Park Poultry Yards.
Bamtams, R. C. Black hen—1, Spring Park Poultry Yards.
Bantams, Brahama Light & Dark cock—1, Spring Park Poultry Yards. (Second prize, no first awarded).
Bantams, cochin buff cock—1, Spring Park Poultry Yards; 2, Alex. Donald.
Bantams, cochin buff hen—1, Chas. H. Smyth; 2, Alex. Donald.
Bantams, cochin buff cockerel—1, Alex. Donald, (second prize).
Bantams, cochin partridge cockerel—1, Spring Park Poultry Yards.
Bantams, cochin partridge pullet—1, Spring Park Poultry Yards.
Bantams, cochin White cock—1, Spring Poultry Yards; 2, R. Carter; 3, Chas. H. Smyth.
Bantams, cochin White hen—1, Spring Park Poultry Yards; 2, Chas. H. Smyth.
Bantams, cochin White cockerel—1, Spring Park Poultry Yards.
Bantams, cochin White pullet—1 and 2, Chas. H. Smyth.
Bantams, cochin Black cock—1, Day Bros.; 2, Chas. H. Smyth; 3, Spring Park Poultry Yards.
Bantams, cochin Black hen—1, 2 and 3, Chas. H. Smyth.
Bantams cochin Black cockerel—1 and 2, Chas. H. Smyth.
Bantams, cochin Black pullet—1, Chas. H. Smyth.
Bantams, Jap. Black Tiled cock—1, Victor G. Fuller, Amherst.
Bantams, Jap. Black Tiled hen—1, Victor G. Fuller.
Bantams, Jap. B. & W. cock—1, J. L. Curran, Charlottetown.
Bantams, Jap. B. & W. hen—1, J. L.

Canada must 'Carry On'

If Belgium's Children Are To Be Saved - -

To punish the violation of Belgium and free its land from the Huns has been one of the strongest rallying cries of British and Canadians throughout this war. For it our men have fought hard and long, and, stronger and more determined now than ever, they are "Carrying on" to the finish.

When the soldiers first went out to fight the despoilers of Belgium, we who could not go undertook to help feed the starving women and children who were victims of German savagery. Are WE carrying on as the soldiers are doing? Or has our enthusiasm cooled—our sympathy died out—our help lessened or ceased?

Certainly the Belgians' need of help has not lessened, but rather increased! Three million women, children and old men are depending for food—for life itself—on the Belgian Relief Commission. The Commission in turn depends on us Canadians for a substantial share of the necessary food, or the money with which to buy it. If we fall short in our contributions, thousands of Belgian kiddies must go painfully, if not fatally, short in their food supply Already an alarming number of them, weakened by scanty rations, are falling victims to tuberculosis.

There would be little merit in restoring Belgium to a nation whose motherhood and youth we had allowed to be decimated and weakened by hunger and resulting disease Let us at home carry on the relief work as unselfishly, as steadfastly and as successfully as our soldier boys are carrying on the fighting! If YOU have not been helping, now is the time to give a hand and do your bit.

Send your subscriptions weekly, monthly or in one lump sum to Local or Provincial Committees, or

Send Cheques Payable to Treasurer **Belgian Relief Fund**

59 ST. PETER STREET, MONTREAL

The Greatest, Most Efficiently Organized Relief Work The World Has Ever Seen. 31

Curran; 2, Spring Park Poultry Yards.

Bantams, Jap. B. & W. cockerel—1, J. L. Curran.

Bantams, Jap. B. & W. pullet—1, Spring Park Poultry Yards.

Bantams, Polish etc. cock—1, J. L. Curran.

Bantams, Polish etc. hen—1, J. L. Curran; 2 and 3, R. Carter.

Bantams, Polish etc. pullet—1, R. Carter.

Silkier cock—1, Spring Park Poultry Yards.

Silkier hen—1 and 2, Spring Park Poultry Yards.

Collection Pigeons—1, R. Carter; 2, Walker & McMullin; 3, Kentville Poultry Yards; 4, Spring Park Poultry Yards; 5, R. Carter.

Winners of Special Prizes

Rhode Isand Red cup—E. C. Griffin, Port Williams.

Maritime Poultry & Pet Stock cup —Samuel Steeves, Sunny Brae.

Rhoades cup—C. B. Chapman, Amherst.

Kinsdale cup—Kent Poultry Yards.

National W. Wyandotte cup—Samuel Sttves, Sunny Brae.

Dressed Poultry

Best 2 Orpington cockerels—2 and 3, Seaman & Stewart, Monctin. (First pize not awarded).

Best 2 R. I. Red cockerels—1 and 3, Seaman & Stewart. (Second not awarded).

Best 2 cockerels, any breed—2 and 3, Seaman & Stewart. (First not awarded).

Best 6 chickens, any variety—(First not awarded); 2, Seaman & Stewart.

Eggs—1, R. Carter; 2, Walker & McMullin.

The show as a whole was very creditable and well worth seeing, but the citizens of Moncton and the public generally did not exert themselves to a very great extent to see the display. The attendance was ridiculously slim and not at all encouraging for those who put so much time and energy into the work of making the show. We'll all be glad to get back to Amherst.

STANDARDS FOR CANADIAN EGGS

The Poultry Branch of the Live Stock Division, Ottawa, had representatives at the Poultry Show to demonstrate to the public "The Standard for Candian Eggs, adopted by the Canadian Produce Association.

Classes:—Fresh Gathered, Storage, Cracked and Dirties.

Grades:—Specials; Extras, No. 1's, No. 2's; Extras No's 1, No. 2's; No. 1's, No. 2's.

Allowance for deterioration in transit 10 per cent, but none bad, i. e., Eggs should grade at point of delivery 90 per cent, of grade named at point of shipment.

***Definition of Grades**

Specials—Eggs of uniform size weighing over 24 ozs. to the dozen or over 45 lbs. net to the 30 doz. case; absolutely clean, strong and sound in shell: air cell small, not over 3-16 of an inch in depth; white of egg to be firm and clear and yolk dimly visible; free from blood clots.

Extras—Eggs of good size, weighing at least 24 ozs. to the dozen or 45 lbs. net to the 30 doz. case; clean; sound in shell; air cell less than 3-8 inch in depth; white of egg to be firm and yolk slightly visible.

No. 1's—Eggs weighing at least 23 ozs. to the dozen or 43 lbs. net to the 30 doz. case; clean; sound in shell; air cell less than ½ inch in depth; white of egg to be reasonably firm; yolk may be quite visible but mobile, not stuck to the shell or seriously out of place; air cell not necessarily stationary.

No. 2's—Eggs clean; sound in shell; may contain weak watery eggs and eggs with heavy yolks, and all other eggs sound in shell and fit for food.

*Definitions of grades in class Cracked and Dirties to be same as for grades in Fresh Gathered class except that the terms referring to soundness and cleanness are not to apply.

OFFICERS OF THE MARITIME POULTRY ASSOCIATION FOR 1917.

Pres.—A. F. Houston, Charlottetown, P. E. I.

Vice-Pres. for Nova Scotia—Chas. Johnston, North Sydney, C. B.

Vce-Pres. for Prince Edward Island —W. J. Cudmore, Charlottetown.

Vice-Pres. for New Brunswick—John Scott, St. John, N. B.

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Sec.-Treas.—J. P. Landry, Truro

Prize List Committee—A. F. Houston, Charlottetown, P. E. I.; Seth Jones, Sussex, N. B. and J. P. Landry, Truro, N. S.

TRAINING THE COLT

We never have any trouble in training our colts. We begin about January 1, using a bitting harness to accustom them to the bit. This harness consists of an open bridle with check, a surcingle with crupper attached and side reins running from the sides of the surcingle to the bit. We turn them out in the yard with this harness on for an hour or more each day for five or six days. We leave the check and side reins loose at first, taking them up a little each day.

Next, we hitch them up with a gentle, obedient, fast-walking horse, driving them on the off side for a few times and then on the near side for a few times. We drive them to town, to the neighbors, haul straw and do other light jobs, and by the time for spring work they are well broken and in good condition to stand the work. We have broken from two to four colts by this method each winter for several years with good result.—J. McP.

The Dominion Experimental Farm, Nappan, N. S., had an instructive display of model modern poultry appliances at the recent Maritime Poultry Show. Mr. W. W. Baird, the popular and efficient superintendent of the farm was in charge of the dispay. He and his assistant, Mr. Bert Robertson explained the merits of the various devices and the benefits to be derived from practising modern methods.

The placards connected with the display set forth some of the truths of poultrydom.

Water is cheap, supply it li' erally.

Dispose of non-producers.

Market your old hens as soon as the breeding season is over.

An old hen will make more broth than profit.

A high price for water.—In selling eggs for 40 cents per dozen, we are getting 25 cents per pound for water. Give hens lots of water.

A flock of 100 hens properly cared for will pay the rent on an average 100 acre farm.

Don't allow every member of your family to look after the hens. Make one person responsible and you will have better results.

Give the boy or girl the management of the poultry plant. It will make a better man or woman and a more profitable plant.

To get winter eggs—Early pullets of a laying strain in clean, bright houses before cold weather. Proper feed, fed so as to keep them active.

Get a good factory—The high cost of feed emphasizes this fact that only early pullets should be kept.

Don't keep old hens. Hen decrease each year 25 per cent in egg production. Keep the early pullets for winter eggs and the one-year-old hens for breeding. This means high priced eggs and strong vigorous chicks.

The display contained a model permanent colony house, a portable colony house, model appliances for feed, trapnests, etc. and cartons such as are used for the marketing of eggs for hatching, guaranteed eggs and broilers.

The factory referred to in a preceding paragraph was represented by two coops. In one there was an early hatched pullet—hatched about April 1st that laid 126 eggs. 100 hens like this one would give a yearly profit of $121.00, after feed bill is paid.

The pullet in the other coop was hatched May 15th and laid fifty eggs. 100 hens like this one would give a loss of $100.00. The comparison is obvious. "Keep only early pullets".

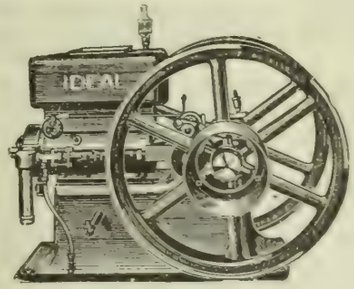
Samples of the various poultry foods in quantites required by individual birds was also shown.

THE
Air-O-Lantern
Gives 300 Candle Power Light
As bright as a City street light. Carry it anywhere, in any weather. Set it down in hay. Knock it over; quite safe, can't explode can't start a fire. Burns 90% air and 10% gasoline. One filling burns 12 hours. The best of all lights for outdoors. Cheapest in the end.
FOR INDOORS, USE
AIR-O-LITE
Safest, Brightest, Cheapest Light.
All the advantages of the Air-O-Lantern, and beauty besides. A handsome lamp for any room. Absolutely no danger of fire or explosion. Clean—no wicks to trim. Write for FREE catalogue and full details of special "Direct to you" offer. Address,
THE ROCHESTER LAMP CO.,
Dept. M., Church Street,
TORONTO.

Brantford Gasoline and Oil Engines

Stationary, Mounted and Traction

We manufacture the most complete line of Engines on the market. Send for Catalogues.



A

Brantford Engine

is the best that money can buy.

We manuracture complete lines of

Wind Mills, Grain Grinders, Steel Pole and Wood Saw Frames, Pumps, Tanks, Water Boxes, Concrete Mixers, etc.

Agents Wanted in Unrepresented Territory

GOOLD, SHAPELY & MUIR CO., LTD., BRANTFORD, ONT.

A. McCAUSLAND, Victoria Hotel, St. John, N. B., Maritime Representative.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Jersey Cattle

Cann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls, N. B.

Guernsey Cattle.

T. D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorcheste , N. B.
James McKenny, Summerhill Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

Ayrshire Oattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
Hon. W. Owens, 4026 Dorchester St., Montreal.
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S.

Shorthorn Cattle.

W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
Joseph E. Kinsman, Upper Canard, Kings Co N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Oxford Down.

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shropshires

C A. Archibald, Truro, N. S.

Yorkshires.

R. J. Messenger, Lawrencetown, N. S.
Hon. W. Owens, 4026 Dorchester St., Montreal.
Sydney J. Goodliffe, Sussex, N. B.

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co. N. S.
A. A. H. Margison, East Centreville, Carleton Co., N. B.

White Wyandottes

R. J. Messenger, Lawrencetown, N. S.

HONEY FOR SALE !

Clover and Autumn Honey in pails of 5 and 50 pounds sizes. Warranted pure.

CRAIG BROS.,
AMHERST, - - N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock Lowest prices, Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

Elmwood Stock Farm
Offers for Sale :

Two choice young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

One Cent a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 1 cent a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is one cent a word, each insertion. MARITIME FARMER, Sussex, N. B.

TEN Shorthorn Bulls for sale. — WALTER EATON, Upper Canard, N. S.

FOR SALE—Choice White Orpington Cockerels from Owen Farms, best pens.—MOUNT PLEASANT POULTRY YARDS, 62 Paras St., St. John. N. B.

FOR SALE—Registered two-year-old Clydesdale Stallion, price moderate. — LENNOX NAPIER, Lower Woodstock, N. B.

FOR SALE—Pure Bred Dorset Ram Lambs. These are sturdy fellows at bargain prices to head your flock. E. A. Howlett, Lake Edward, N. B.

FOR SALE—Registered Berkshire Bore, eighteen months old. C. A. Borden, Scheffield Mills Nova Scotia.

FOR SALE—Hampshire Sheep, both sexes also some males and females of any of the popular breeds. All good stock.—CEPHAS NUNN, Winsloe, P. E. I.

WOULD YOU MARRY IF SUITED? Best matrimonial paper published. Mailed FREE.—THE CORRESPONDENT, Toledo, Ohio.

FOR SALE.—One pure bred Cheviot Ram, 3 years old, and one pure bred Cheviot Ram Lamb.—J. H. NICOL, West Bathurst, N. B.

PORTRAIT AGENTS WANTED.—Send for catalogue. Solar and bromide prints, portraits flax and convex, frames and war pictures.—MERCHANTS PORTRAIT CO., Toronto.

FOR SALE—Ayrshire Bulls and Heifers, from one week to two years. Registered Clydesdale Stallions and Mares - John A. Hughes, Petitcodiac, N. B.

LADIES to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges prepaid. Send stamp for particulars to NATIONAL MFG. COMPANY, Montreal.

FARMERS DON'T MISS THIS—I have a few of the wonderful Aladdin Coal Oil Lamps left which I am offering at very low prices. Write for full particulars. Address E. H. SMITH, Nauwigewauk, N B.

FOR SALE—Fifteen pairs of Buff Leghorns' cockerel and pullets, $2.50. By a $15 00 sire' Two White Wyandotte, two R. I. Reds and one White Leghorn Cockerels, $1.25 each, or would exchange some for pure bred Barred Rocks or R. I. Red Pullets.—G. M. PECK, Wolfville, N S.

TROTTER FOR SALE—Handsome Black Gelding, young and kind; not afraid of anything; a fast trotter with lots of action. Safe for a lady to drive. An extra good ice hors . Would exchange for a heavy express horse.—A. M. WILSON, Erskine St . Dartmouth, N. S.

950-Acre Farm $4500

Owner called to another state by urgent business sacrifices 130 acres in cultivation, corn, grain, clover and potatoes, 100 apple trees, 300 acre pasture. Estimated a million feet of oak, beech, white birch, maple, pine, etc. Will cut thousands of cords of wood worth $5 a cord in nearby local markets. Equipped saw mill, doing paying custom business; neat comfortable cottage house, basement barn, hen house and wagon house. If taken now owner includes pair horses, 4 cows, 2 hogs, poultry, mowing machines, plows, harrows, cultivators, corn planter, steam engine, corn husker and shredder, threshing machine, power wood saw, hydraulic cider mill, grain reaper, cream separator, wagons, sleds, 4 sets harnesses, house furniture and a lot of apples, potatoes, corn, oats and hay. $4500 takes all. Part down and easy terms. For details see page 6 "Peace and Plenty Catalogue" filled with farm bargains in a dozen states. Write today for your free copy — E. A. STROUT FARM AGENCY, Dept 2612, 294 Washington Street, Boston, Mass.

Butter Parchment
Farmer Office
Sussex, N. B.

FOR SALE!
R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Average last year 6944 lbs., testing 3.9% fat.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

SHEEP ! Shorthorn Cattle !

We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Eastern Karakule Sheep Co. Limited

WINDSOR, N. S.

SUCCESSFUL DAIRYMEN have found that it pays to dehorn their cows. Drovers pay more when they are dehorned, and shippers are insisting on having cattle dehorned. The KEYSTONE DEHORNER is the most effective instrument for the purpose. Write for booklet. R.H. McKENNA, 219 Robert Street, Toronto.

JERSEY BULLS

Two young Jersey bulls from dams with R. O. P. records. We will sell these bulls at a reasonable price and on condition that the purchaser may return the bull if he is not satisfied with him and we will return the money and pay freight. These bulls are bred right and will get producing stock. Order one you run no risk.

W. C. CLARK & SONS,
NORTH WILTSHIRE, P. E. I.

COMING EVENTS

Annual Meeting and Dairy Exhibition. Nova Scotia.

Dairymen's Association N. S. A. C., Truro, Jan. 4 and 4, 1917.

Nova Scotia Fruit Growers' Association, Lawrencetown, N. S., January 16, 17 and 18, 1916.

Better farming Special on C. P. R. lines in N. B. leaves Fredericton January 3rd.

New Brunswick Farmers' and Dairymen's Association begins January 29, 1917, and New Brunswick Provincial Seed Fair, Fredericton, N. B., January 31, 1917.

Butter and cheese makers courses at the N. S. A. C., Truro, March 7 to April 4, 1917.

Short Courses at the N S. A. C., Truro, January 2 to 11, 1917.

Nova Scotia Farmers' Association, Amherst, N. S., January 23, 24 and 25, 1917.

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

STRAWBERRY PLANTS

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

OPPORTUNITY

Owing to not getting a new poultry house built as expected, we are forced to sell about 50 pullets in Barred Rocks and White Leghorns. Also a few more yearling hens and several choice Cockerels.

If interested write,

ORCHARD HILL FARM,
Brown's Flats, N. B.

NOTICE

TO OUR CUSTOMERS

CONSIDERING the present cost of material, wire fencing is sold at very low prices. Had we to buy on present market, fence would have to be sold for 25% higher than our present prices.

For the immediate present we are selling fence for cash, direct to the user, at old prices. We cannot, at this writing, state how long we can do this. We would strongly advise our customers to cover their fence requirements in the near future.

THE PAGE WIRE FENCE COMPANY
LIMITED.
45 DOCK ST., - ST. JOHN, N. B.

PULVERIZED LIMESTONE

CLAIRMONT BRAND

Pulverized Limestone is recommended by all Departments of Agriculture, Experimental Stations, County Demonstrators and Farm papers throughout United States and Canada.

A large proportion of the soil in this country becomes Acid, or Sour, and requires Limestone to Sweeten.

If you want big yields from your crops, order Pulverized Limestone.

CLAIRMONT BRAND IS HIGH GRADE.
LOW QUOTATIONS ON CAR LOTS.

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We Prepay all postage to your home address

1000 1 lb. Printed, - -	$3.30
500 1 lb. Printed, - -	$2.30
1000 Printed, 2 lb. - -	$4.50
500 Printed, 2 lb. - -	$3.40
500 2 lb. Choice Dairy Butter,	$2.00

Parchment marked "Choice Dairy Butter"
500 Sheets for $1.15, Postage Paid.

The Maritime Farmer
SUSSEX, N. B.

ILLUSTRATION STATIONS IN CANADA

The Department of Agriculture of the Dominion Government is carrying on Illustration work in crop production and cultural methods with farmers in the provinces of Quebec, Alberta and Saskatchewan.

Farmers owning or operating land favourably situated for the carrying on of such work co-operate with the Department.

The farmer puts under the direction of an officer of the Dominion Experimental Farms System, a part of his farm having a good wide frontage on a well travelled highway, each field having the same frontage along the same highway, so that the crops and cultivation are unavoidably in evidence to the casual traveller and easily inspected by the interested visitor.

The Department, for the first year at least, furnishes the seed necessary to sow such of the fields as it is decided to put under crop that year. In subsequent years the farmer saves enough of the best of the crop grown on these fields to do the necessary seeding. This, of course, provided the grain produced is satisfactory as to purity and germinative power.

All cultural and harvesting operations in connection with these fields, i. e., the ploughing, harrowing, etc., of the fields and the sowing, harvesting and threshing of the grain therefrom are done by the farmer. All work indicated above is done in exactly such ways and at exactly such times as directed by the Illustration Station Division of the Dominion Experimental Farms System. The farmer keeps a record of the amount of time taken to perform the different operations on each field and threshes the grain harvested separately so that it will be known how much is harvested from each field.

The records just mentioned of the work and crops resulting, together with brief notes made each week, are duly entered on blank forms provided for that purpose. The work of making such notes and entering up the work done on each field does not entail more than one hour's work each month. Each week the farmer mails to the Central Experimental farm, Ottawa, a form filled out with full particulars as to the work done, general weather conditions and crop progress on the different fields. The farmer permits to be placed in front of each field a sign stating briefly the method of preparing the land for the crop growing thereon, or the treatment given the plot that year.

On all these farms, whether located in the Province of Quebec, or in Saskatchewan or Alberta, systematic rotations of crops suitable to the district served as well as the best cultural methods and most suitable varieties of crops are being demonstrated.

THE NEW BRUNSWICK FARMERS' AND DAIRYMEN'S 1917 CONVENTION

The executive of the New Brunswick Farmers' and Dairymen's Association have issued their call to their 1917 annual meeting.

The convention will be held in Fredericton. The programme will commence on Tuesday morning, January 30th in the Opera House, and will include addresses and discussions on Sheep Raising, Potato Growing and Pork Raising.

The Annual Provincial Seed Fair, which is now recognized as one of the big features of the Convention will be held during the morning and afternoon of the 31st, in the gymasium of the Provincial Normal school, where every body can be comfortable and examine the exhibits to the best advantage.

The Wednesday evening session will be devoted to addresses along patriotic lines. It is hoped Hon. Martin Burrell will be the chief speaker.

On Thursday, February 1st, Poultry raising and Dairying will be the chief topic.

On Friday everybody will go to the Experimental Farm to spend the day in profitable discussion, and to get in closer touch with what the Experimental Farm is planning and doing to help the farmers of the province in overcoming the problems that confront them.

The seed fair prize list is now ready for distribution. If you have not yet received a copy, send for one to J. B. Daggett, Secretary for Agriculture, Fredericton. Look it over, then get some seed ready and make your entries early. You will find it a big incentive to do more and better work in seed selection and grading, and this in turn will mean bigger crop yields for you.

The president of the Association is Mr. Geo. E. Fisher, Chatham—a business man and enthusiastic farmer. His slogan for 1916-17 is 1000 members. Are you one of the number? If not, plan to be in Fredericton on the convention dates and join with your fellow farmers in their annual parliament.

Work is planned on some farms so that it is done by half as many horses as some other farms keep for the same purposes. It is a sign of poor farming to have a lot of idle horses about.

Remember that lice live in filth, therefore to prevent re-infection after the lice are once killed, all litter in barns and yards must be burned, and the buildings thoroughly disinfected.

Eeternal vigilance is the price of good service.—Publicity Magazine.

Nervous Headache

Pain is a blessing in disguise.

It is Nature's danger signal to warn you that there is something wrong in the system.

While headache may result from a variety of causes, it most frequently denotes a starved condition of the nerves.

The brain is the headquarters or "central" of the nervous system. Here nerve force is consumed at an enormous rate. If there is any lack of rich, red blood from which to form new nervous energy the brain is first to feel it and the head aches.

Headaches may be stopped by powerful drugs, but that is like breaking the semaphore which warns the engineer of danger.

The only wise way is to increase the amount of rich, red blood in the human body by using Dr. Chase's Nerve Food, and thereby feed the starved nerves back to health and vigor.

Not only will the headaches disappear, but you will sleep well, feel well and gradually regain strength and confidence. The Nerve Food will sharpen the appetite, improve digestion and build up the whole system.

In this way the headache will prove a blessing. It has warned you of approaching nervous collapse while yet there is a foundation on which to build good health.

Dr. Chase's Nerve Food, 50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

529

Do not be talked into accepting a substitute. Imitations disappoint.

DR. A. W. CHASE'S NERVE FOOD

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, JANUARY 9, 1917. Number 7.

Conserve Breeding Herds and Flocks

Save the Heifer Calves

The Maritime Farmer has deplored, on many occasions, the slaughter of young calves that is so common in the dairy districts of the Maritime Provinces.

Economy should be the watchword of every citizen during the strenuous times through which our empire is now passing.

The conservation of every available food source should be recognized.

Live stock is acknowledged by our foremost authorities to be the backbone of a sure and sane system of agriculture for the Maritime Provinces.

Present indications point to a great scarcity of horned cattle and a big demand for same at the conclusion of the war.

The slaughter of young calves and immature meat animals of all kinds is wilful waste—wilful waste if continued brings woeful want.

The present high prices for meats of all kind actually mean a woeful want. It spells scarcity and scarcity leads on to famine unless some measures are taken to conserve and foster supplies.

In some parts of England farmers and legislators have worked together to enact a law prohibiting the slaughter of calves under a certain age. A young calf when slaughtered at birth is slugged veal of inferior food value. The calf reared to several months and well fed will produce a large quantity of good veal. The possibility is there and it is a crying shame to destroy it. Moreover the finished product is of more value to the farmer.

We do not for a moment claim that heifer calves from inferior milkers should be reared to take their place in the dairy. We do, however, claim that instead of being slaughtered at birth, they should be reared to the age when they could be profitably slaughtered for beef.

Prof. M. Cumming of the N. S. A. C., Truro, has submitted for discussion in the public press the following communication from the Montreal Board of Trade.

"I have the honor to inform you "that the question of the steadily de-"creasing numbers of Live Stock in "Canada, and scarcity of Hides, has re-"ceived the attention of the Council of "this Board, and after very careful "consideration it desires to make the "following recommendation to you:

"That legislation be enacted, to re-"main ecective for the duration of the "war and for one year thereafter (1) "prohibiting the slaughter of female "cattle and sheep under the ages of "eight and five years respectively, ex-"cept under the authority of the De-"partment of Agriculture.

Canadian Fruit Being Sold by Auction in Great Britain

"The prohibition of the slaughter of "male calves under one month old is "recommended because the hide of a "calf less than one month old is not of "much use and the meat is of doubtful "value.

"The Council further recommends "that seriously consider whether it "might not be advisable to prohibit "the exportation of female live stock "under such ages as you may deem "necessary. This action on the part "of the Government would have the ef-"fect not only of preserving our herds "and flocks, but also of keping within "the country the various by-products, "such as fats, hides, etc., and so tend "to keep the prices for these products, "all of which are advancing rapidly, "within reasonable bounds, thus as-"sisting in some measure in keeping "down the cost of living, which is pres-"sing so heavily on many classes of "our population."

Dairymen who produce winter milk, plan to have a large percentage of their cows freshen during the fall and early winter. Other dairymen plan to produce most of their milk in summer and in such cases, the spring months bring the greater percentage of calves to their herds. Then there is another class of dairymen who plan to keep up a fairly uniform milk flow throughout the year and in order to do so they plan to have cows freshen occasionally so that when one cow is drying off another is coming into full flow to take her place. As a sane business proposition we believe the system that calls for a steady income throughout the four seasons is the most desirable.

The system that calls for milk production only in summer is antiquated. The cows are idle too much of their time and it has been proven repeatedly that the spring reared calf costs more to bring it to the producing stage than does the fall reared calf.

The advocate of winter dairying, however, claim they can give their cows more attention during the winter season than they can in the busy summer season. Records show that fall calved cows give an abundant flow of milk when prices are high and when they are pretty well along in lactation and their flow is diminishing the rich pasture grasses gives their milk producing proclitivies a new lease of life and consequently they will produce more milk in one year than under any other system.

The failure of the potato crop in so many of the large growing centres last summer caused a scarcity that sent prices skyward. Consequently there was an increased demand for turnips and they too soared in prices to such an extent that many dairymen, who had large quantities could not resist the temptation to sell. Some dairymen did not have foresight enough to retain enough for the use of their dairy herds. Mill feeds of all kinds are high and hard to get, and as a consequence some dairymen have decreased their herds. We believe fewer cows are being milked this winter in our foremost dairy sections than there have been for several years, despite that milk prices have advanced from 25 to 50 per cent.

We hear some farmers say: What then is the use of talking the rearing of calves when milk cream, butter and cheese are so much in demand and at record prices?

We say it because we believe that the farmer who plans to rear as many heifers as he possibly can, will reap a rich reward for his abors during the next five or ten years.

Maintenance of the herd by purchasing cows not conductive to economical herd improvement.—The maintaining of a dairy herd is one of the difficult problems that constantly confronts every milk producer. In a great many instances, the herds are maintained by buying cows on the general market or from breeders who are less fortunately situated in regard to the disposal of their product as whole milk, and who, for this reason, use the skim milk available for the growing of heifers. Aside from the breeder of pure-bred cattle, it is only occasionally that a dairyman is sufficiently interested in his herd to rear his own cows. Under existing conditions, there is a constant demand for dairy cows of profitable production or of improved breeding and the value of such animals is often much higher than the actual cost of producing them.

The cows sold on the open market are usually produced by dairymen who have skim milk available for the growing of calves. Many dairymen who dispose of their product as whole milk would gladly increase the size of their herd or improve its quality if it were possible for them to do so economically. The prices which are being paid for grade cows are sufficient proof of the extent of the demand. The practice of buying cows into the herd, under average conditions, is not conductive to increased production. The cows which are offered for sale are often very inferior animals. They are available because the owners appreciate the value of records and dispose of their cows as soon as they fail to yield a profit, or they are handled by professional cow buyers who sell their animals as soon as they decline in production. This practice prevails, although many of

their cows may be fair individuals from the standpoint of dairy conformation.

The Raising of Heifers has many advantages.—The dairyman who keeps individual records, who breeds the cows that show profitable production, to bulls of desirable ancentry, and raises the heifer calves from these cows, is following a system of maintaining his herd that promises the greatest and surest possibiities for herd improvement and increased production. Dairymen, who are using grade cows exclusively, may apply this method of herd improvement with practically the same assurance of success as the breeder of pure-bred stock.

The influence of a sire of known breeding, when mated with cows of profitable production, insures offspring of like characteristics. The practice of raising his own heifers assists the dairyman in protecting his herd against animals harboring germs of communicable diseases and in guarding the consumer against the dangers of unsafe milk. Aside from yielding a product that may jeopardize the health of the consuming public, unsound cows are also undesirable because they are not in a condition to do justice to their milk-producing ability, causing decreased production.

Scarcity and Market Value of Skim Milk as a Human Food.—The advantages to the dairyman of producing his own cows as above set forth are counteracted, to no small extent, by the difficulties of producing them economically under existing conditions. The demand for whole milk is increasing from year to year, both as a product for direct consumption in cities and towns and for the manufacture of condensed milk and cheese. Skim milk is, therfeore, not available on a large number of farms as a feed for raising calves, and, although it is considered as ranking next to whole milk for this purpose, it is impractical to recommend its universal use.

There are several mlk substitutes for calf feeding on the market, some of which are used very extensively. Doubtless, in many instances, their value is xceedingly high for this purpose. As the demand for whole milk increases, the extensive use of these materials must necessarily follow. A calf meal that will successfully take the place of skim milk as a feed for calves will do much toward increasing the cow population of our country and to encourage the dairymen to develop their herds in accordance with the best principles of breeding, which is a more desirable practice than that of depending upon buying cows from unknown sources.

Convention and Potato Show of the N. B. Potato Growers' Ass'n

The annual Convention of the New Brunswick Potato Growers' Association was held in the Fisher Vocational School at Woodstock on December 27th and 28th, 1916. The initial Potato Show of the Association was also held simultaneously with the Convention. A large number of potatoes from different sections of the Province were exhibited in the several classes, some of the stock which carried off the larger of the prizes, being exceptionally fine. The New Brunswick Potato Exchange made a donation of $300.00 to the Association, to be used as a prize fund; this donation enabled the Secretary to prepare quite an extensive prize list.

The prize money was all awarded, with the exception of the 7th, 8th, 9th and 10th prizes in Class III, and the 4th prize in Class VIII. Exhibitors from York Co. took $87.50, from Carleton Co. $66.50, from Northumberland Co. $60.00, from King's Co. $41.00, and from Victoria Co. $37.50. The exhibits were judged by Mr. S. J. Moore, Representative of the Dominion Seed Branch, of Truro, N. S. and Mr. J. A. Clark, Superintendent, Dominion Experimental Station, Charlottetown, P. E. I.

The Dominion Experimental Farms Exhibition Exhibit was also displayed, together with 60 varieties of potatoes which were grown at the Experimental Station, Fredericton. Much interest was evinced in this display, the Hall where it was set up being the centre of much animated discussion during the two days of the Convention.

The first session of the Convention opened at 2.00 p. m., December 27th, the President, Mr. T. W. Caldwell of Florenceville presiding. After the minutes of the previous Convention and the Constitution and Bye-Laws of the Association had been read by the Acting Secretary, the President gave his address, which will be published in next issue.

At the conclusion of this address, the President appointed the following committees:—

Nominating Committee,—Mr. W. W. Hubbard, Fredericton, Chairman; Mr. A. D. McCain, Florenceville; Mr. A. A. H. Margison, East Centreville; Mr. W. E. Palmer, Scotch Lake; Mr. G. C. Cunningham, Fredericton.

Membership Committee,—Mr. James Bremner, Jr., Chatham, Chairman; Mr. W. E. Palmer, Scotch Lake; Mr. C. M. Shaw, Hartland; Mr. J. E. Porter, Andover; Mr. L. Estey, Woodstock; Mr. T. A. Goggin, Elgin; Mr. C. Fred Fawcett, Upper Sackville.

The second address was given by Professor W. S. Blair, Superintendent, Dominion Experimental Station, Kentville, N. S., on "The Importance of Planting Vigorous Seed Stock" and a report on co-operative tests conducted by agricultural societies. The speaker, by producing figures showing the results of these tests, emphasized the great importance of every grower ascertaining whether his stock is giving the best results. This can best be ascertained by taking part in co-operative tests, different growers planting samples of their stock side by side under uniform treatment and conditions and carefully noting the results obtained.

New Fumigation and Inspection Station, Niagara Falls, Ont.

The next address was given by Mr. C. Fred Fawcett of Upper Sackville, on "Successful Methods of Potato Selection." Mr. Fawcett has practised seed selection for a number of years and has met with much success in the production of a fine class of seed stock. He gave an interesting account of the methods employed by him in carrying on this work.

A discussion on this address, entitled "Shall we endeavour to eliminate all varieties except those of the Green Mountain and Irish Cobbler groups" was led by Mr. S. J. Moore and taken part in very enthusiastically by a number of the audience.

The session closed at 5.00 p. m. There were 134 members and delegates present.

The second session opened at 8.00 p. m., Mr. A. D. Holyoke of Woodstock in the chair. The chairman said that, while not a farmer himself, yet as a former secretary of the local agricultural society, he took a great interest in agricultural matters and it gave him satisfaction to know that such a splendid organization as the New Brunswick Potato Growers' Association promised to be, had come into existence. He added that he believed in unity in all things and if the potato growers of this Province would come to realize that "Union is Strength" and do everything possible to further the work that the Association has pledged itself to perform, he predicted a bright future for the potato industry of New Brunswick.

The President next addressed the meeting on "The Canadian Potato Industry" and gave figures to show that Canada occupies an important place among the potato growing countries of the world. He also expressed the opinion that much greater production ought to be secured, not necessarily by increased acreage, but by more improved methods of seed selection, cultivation, and control of disease.

Mr. J. A. Clark, Superintendent, Dominion Experimental Station, Charlottetown, P. E. I. next gave an address on "The Relation of the Potato Industry to General Agriculture." Mr. Clark, in the course of his address, gave full details of the cost of raising an acre of potatoes, and by basing his figures on the actual cost of labour and materials in 1916 and the price obtained for potatoes, he showed that, allowing a liberal margin for every contingency, potato growing was still a profitable business.

There were 83 present at this session. The session closed at 10.15 p. m. with the singing of the National Anthem.

The third session opened at 9.00 a. m., December 28th, the President in the chair.

The first address was given by Mr. Paul A. Murphy, Dominion Plant Pathologist for P. E. I. and N. S., on "Potato Diseases and their Control." Mr. Murphy explained some of the more serious diseases, particularly Black-leg and Mosaic, and emphasized the necessity for eliminating at planting time, all tubers showing the slightest traces of disease, discolouration, cuts or bruises.

The next address was given by Mr. George Partridge, Dominion Plant Disease Inspector, Fredericton, on "Late Blight or Rust and its Control by Spraying." The speaker outlined the loss which is annually caused by the ravages of this disease, stating that in 1915 the estimated loss to the possible crop in New Brunswick was 25%, or 3,000,000 bushels; a loss from a financial standpoint of $1,500,000. He produced results of experimental work in spraying with Bordeaux Mixture which has been carried on during the past two seasons in different parts of New Brunswick and Quebec, under the supervision of the Dominion Plant Pathological Laboratory at Fredericton. These figures obtained from a thorough and systematic use of Bordeaux Mixture (4 lbs. Copper Sulphate, 4 lbs. Lime, 40 gals. Water) for the control of Late Blight, in some instances an increase in yield

of 100% having been obtained.

A discussion on this address was then opened and led by Mr. A. A. H. Margison of East Centreville, and Mr. W. E. Palmer of Scotch Lake. Both these gentlemen are successful potato growers and produced figures of results which they have obtained from experiments carried on by them on their own farms, experiments which have proved to their satisfaction that to be reasonably sure of obtaining a good yield of potatoes, the use of Bordeaux Mixture is advisable.

Mr. G. C. Cunningham, Secretary of the Association and Dominion Plant Pathologist for New Brunswick and Quebec also addressed the meeting on the subject of potato diseases. He said that at a previous meeting he had heard statements made that the average production per acre of potatoes in New Brunswick was 100 barrels, but he considered this to be a very high estimate, for while some individual growers might be producing more than 100 barrels per acre yet on the majority of farms the yield was much smaller than this figure. This was due to a large extent to the prevalence of disease, more especially Black-leg, Rhizoctonia, Mosaic and Late Blight. These four diseases caused annually a loss of from 45% to 50% of the total possible crop in the Province, or nearly 6,000,000 bushels. He therefore strongly advised all growers to take every possible precaution and endeavour to eliminate disease from their crops. He also mentioned that the laboratory at Fredericton had been established for the purpose of assisting farmers in the work of disease control and any help asked for along this line would be willingly given.

The next address was on "The Preparation of Land and Cultural Methods for Potatoes" by Mr. W. W. Hubbard, Superintendent, Dominion Experimental Station, Fredericton. The speaker widey discussed the subject and many valuable hints and suggestions of a practical nature were brought before his audience.

Mr. J. B. Daggett next addressed the meeting. He welcomed the Convention to the Agricultural School and assured the audience that the Department of Agriculture would be only too pleased to place the building at the disposal of the Association at any time, for its meetings and exhibitions. He also gave an account of the work the Department is doing in the use of lime as a soil corrector, and he invited correspondence from those who might be anxious to obtain some advice on the treatment of sour land.

There was an audience of 117 at this session, which closed at 12.30 p. m.

The final session opened at 2.00 p. m., the President in the chair.

The first item was an address by Mr. A. P. Clark, Manager of the Colonial Fertilizer Co., Windsor, N. S., on "Potato Fertilizers and the Potash Supply". This address dealt in a very complete way with the source of the different chemicals used in the preparation of commercial fertilizers.

Mr. W. W. Hubbard then gave an address on "Results of some Experimental Work with Potato Fertilizers". This address dealt in a very comprehensive manner with experiments which were conducted at the Experimental Station, Fredericton.

Mr. S. J. Moore, Representative of the Dominion Seed Branch of Truro, N. S., next gave an address on "The Value of Shows and how to Select your Entry". Mr. Moore has had many years experience in the judging of crops and he gave his hearers much expert information as to the class of stock to select when making up an exhibit of potatoes.

At the close of Mr. Moore's address, the report of the nominating committee was handed in. This contained the names of the following as officers for the ensuing year:—

President—Mr. T. W. Caldwell, Florenceville, N. B.; Vice-President—Mr. Thomas A. Strong, Lindsay, N. B.; Secretary—Mr. G. C. Cunningham, Fredericton, N. B.; Assistant Secretary—Mr. Geo. Partridge, Fredericton, N. B.; Treasurer—Mr. W. H. Moore, Scotch Lake, N. B.; Auditor—Mr. W. Jarvis, Woodstock, N. B.

Advisory Board—Mr. Donald Innes, Tobique River, N. B.; Mr. W. E. Palmer, Scotch Lake, N. B.; Mr. James Bremner, Jr., Chatham, N. B.; Mr. A. A. H. Margison, East Centreville, N. B.; Mr. T. A. Goggin, Elgin, N. B.

(Continued on page 175)

BUTTER SCORING CONTEST

Name	Sample 1	Sample 2	Sample 3	Total Deductions	Marks	Awards
F. E. Forter	3.1	4.6	.3	8.0	92	
J. D. McKenzie	2.8	1.8	.3	4.9	95.1	1—2
John E. Falt	2.8	3.9	6.1	12.8	87.2	
Thos. A. Chisholm	2.2	3.9	1.5	7.6	92.4	
John A. Chisholm	5.3	4.5	3.9	13.7	86.3	
Alex. J. McDaniel	2.5	4.4	2.1	9.0	91.0	
W. L. Brenton	5.8	5.4	.6	11.8	88.2	
A. M. Wheaton	5.3	3.4	.4	9.1	90.9	
J. R. Sweeney	3.5	3.1	1.0	7.6	92.4	
J. R. Sutherland	4.0	2.7	1.5	8.2	91.8	
Alex. Cameron	1.2	4.3	.3	5.8	94.2	4
D. E. McLeod	8.2	3.2	.6	12.0	88.0	
Alvin Graham	2.4	3.6	.5	6.5	93.5	5
Harold Falconer	1.2	2.7	1.1	5.0	95	3
G. W. Parker	3.2	1.1	.6	4.9	95.1	1—2

Butter and Butter Scoring at N.S. Dairymens Convention

At the Dairymen's Convention held in Truro, N. S., last week, there was a very creditable display of October butter in 56 lb. boxes, and new made butter in 28 lb. boxes, and in prints.

The butter was scored by a scale of points as follows:—Flavor, 45; body, grain and texture, 25; color, 15; salting, 10; finish, 5; total, 100.

The judging was done by Messrs. Harvey Mitchell, C. W. McDougall and Joseph Burgess, working independently and the decision was made on the average score of the three. In cases where two or more scores chanced to be the same, the award was given to the highest in flavor.

The official scoring will be found in this issue.

Forty dollars in each of the three sections were divided pro rate to all butter scoring over 92 points. In section one four exhibitors received a slice of the forty. In sections two and three all the exhibitors came in for a share.

The Canadian Salt Co., Windsor, Ontario, who are consistent advertisers in the columns of the Maritime Farmer, donated four cash prizes totalling $34.00 to the butter scoring highest in sections 1, 2 or 3, salted with Windsor Salt. Their representatives, Mr. Jas. McManus of Windsor, Ont., and R. W. Tilton, St. John, N. B., attended all the sessions of the Association and made many friends among the buttermakers as the salt they represent has long since made and retained among the users of Windsor salt in the dairies of the Maritime Provinces.

The LaHave Creamery Co's butter in the 28 lb. box, new made butter, scored the highest at the show, viz:—96.4 points and was awarded the first Windsor salt special prize as well as the Butter Buyer's Trophy, donated by Smith & Proctor of Halifax and Sydney; R. B. Colwell and Nickerson & Co., Halifax and the Harris Abattoir Co., Ltd., Sydney. This trophy was captured in 1916 by The Brookfield Creamery Co. It must be won three times before it becomes the absolute property of the winner.

The DeLaval Dairy Supply Co. Ltd., put up a silver trophy for the buttermaker securing the highest aggregate score in sections one, two and three, who is a user of one of the major pieces of DeLaval machinery.

C. Richardson & Co., St. Mary's, Ontario, offered two prizes, $15.00 and $10.00 to the butter scoring highest in Section 1, using a Success churn or vat. The first prize went to Scotsburn Creamery and the second to LaHave Creamery Co.

The J. B. Ford Co., Wyandott, Michigan, donated a size 12 Elgin movement watch, with a 20 year gold filled, plain thin model, open faced case, to the buttermaker having the highest average score in Sections, 1, 2 and 3 who is a user of Wyandotte dairymen's cleaner and cleanser. The watch was captured by Alvin Graham, of Scotsburn Creamery.

Then there was a butter scoring competition conducted as follows:—Three or more samples of butter were selected and scored by the official judges in points and one-tenth points and their average score in each division of each sample was the official score. The competitors scored separately. The official score was represented by 100 marks. Deductions of one-tenth mark were made for every one-tenth point over or under the official score in each division, such as flavor, grain, color, salt and finish. The total deduction of the three lots were deducted from the possible mark of 100 and five prizes aggregating $30.00 awarded in order of merit, as will be seen in the table headed Butter Scoring Contest.

Mr. Proctor of the Smith & Proctor Co., Halifax, was present at the sessions and rendered valuable assistance in the discussions when requested to give his opinion of any particular sample re quality or finish from the butter buyers' standpoint.

Mr. C. W. McDougall conducted the discussion on the merits and demerits of the various samples and instructed how to avoid undesirable traits in butter.

Messrs. Mitchell and Burgess also participated in the discussion. Their practical suggestions were of much value to the buttermakers.

W. A. MacKay, Dairy Superintendent for Nova Scotia is working with and for the dairymen of Nova Scotia for the up lift of the industry. He works for their best interests and one does not have to linger long among the dairymen and buttermakers when assembled to find out that they are with him and ready to stand by anything he undertakes for the benefit of the industry to a man.

SECTION 1—56 lb. Box October Butter

Name and Address	Entry No.	Flavor	Grain	Color	Salt	Finish	Total
Scotsburn Creamery, Scotsburn	29	40.3	24.1	14.6	10	4.8	93.8
LaHave Creamery Co., Bridgewater	22	40.5	24	14.5	9.7	4.6	93.3
Antigonish Dairy Co. Antigonish	24	41	23.5	14	10	4.6	93
J. R. Sweeney, Margaree Forks	21	38.5	24.2	14.5	10	4.8	92
La Societe de Laitiere de Meteghan. Meteghan	32	40	23.8	13.7	9.8	4.6	91.9
Brookfield Creamery, Brookfield	35	39.7	23.3	13.4	10	4.6	91
Bayview Creamery Co., Stirling Brooks	31	37.4	23.2	14.1	10	4.7	89.4
Acadia C. & C. Co., Kingston	33	36.3	23.8	14.6	9.9	4.3	88.9
Yarmouth Creamery, Dayton	26	38.3	23.7	13.8	10	2	87.8
T. D. Blaikie, Great Village	34	38.5	23.2	10	10	2.2	83.9

SECTION 2—28 lb. Box New Made Butter

LaHave Creamery Co., Bridgewater	22	42.5	24.1	14.9	10	4.9	96.4
Scotsburn Creamery Scotsburn	29	42.4	23.8	14.8	10	5	96
Acadia Dairy Co., Wolfville	25	42.6	24.1	14.7	10	4.3	95.7
Brookfield Creamery, Brookfield	35	41.8	23.9	14.5	10	4.7	94.9
Pictou Co. Dairy Co., Stellarton	23	41.8	23.7	14.5	10	4.9	94.9
Antigonish Dairy Co., Antigonish	24	41.7	23.9	14.4	10	4.7	94.7
T. D. Blaikie, Great Village	34	40.6	23.6	14.6	10	4.7	93.5
Yarmouth Creamery, Dayton	26	40.3	24	14.4	10	4.4	93.1

SECTION NO. 3

LaHave Creamery Co., Bridgewater	22	42.3	24	14.9	10	4.9	96.1
Acadia Dairy Co., Wolfville	25	42.5	24	14.8	10	4.8	96.1
Scotsburn Creamery, Scotsburn	29	42.6	23.6	14.9	10	5	96.1
Brookfield Creamery, Brookfield	35	42.4	24	14.5	10	4.9	95.7
Pictou Co. Dairy Co., Stellarton	23	41.6	23.5	14.7	10	5	94.8
Antigonish Dairy Co., Antigonish	24	41.3	23.5	14.6	10	4.9	94.3
Yarmouth Creamery Ltd., Dayton	26	40.2	23.6	14.6	10	5	93.4
Bayview Creamery Co., Stirling Brook	31	39.8	23.7	14.8	10	4.7	93
T. D. Blaikie, Great Village	34	40.3	23.1	14.7	10	4.8	92.9

Quality and uniformity in live stock are what command the top prices on the market. A pure-bred bull of an approved type imparts these characteristics to his offspring.

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. When paid in advance 80 cts. Persons taking advantage of the 80 cent rate are only entitled to it by paying in advance each year. When subscription gets in arrears, $1.00 per year will be charged. Subscribers are requested to bear this in mind. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

OUR GUARANTEE.—With each subscriber to the MARITIME FARMER, we positively guarantee, while his subscription lasts, that no advertisement is allowed in our columns unless we believe that any subscriber can safely do business with the advertiser, and we agree to make good any loss which any such subscriber may sustain by trusting any such advertiser who may prove to be a deliberate swindler; but we do not undertake to adjust trifling differences between subscribers and responsible advertisers. To take advantage of this guarantee, written complaint must be made to the publisher within one week from the date of any unsatisfactory transaction, with proof of the swindle and loss, and within one month from the date when the advertisement appeared, and the subscriber must prove that in writing to the advertiser he said:—"I saw" your adv. in the MARITIME FARMER.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

JANUARY 9, 1917.

DATES OF ISSUE

January	23
February	6-20
March	6-20
April	10-24
May	8-29
June	12-26

LIVE STOCK RAISING ESTABLISHES AGRICULTURAL CREDIT OF BEST KIND

"One of the difficulties confronting the American farmer is the want of agricultural credit. By this is meant short time credit, similar in degree to the credit of commerce, as distinguished from long time credit or mortgage loans. While the latter form of credit has had an extensive development in this country, agricultural credit as such is virtually non existent, and the farmer has been forced to depend for his annual working capital upon the generosity of neighbors, the forbearance of the local storekeeper, or the cupidity of the usurer."

The foregoing paragraph is from a recent issue of one of the publications of the International Institute of Agriculture.

Yes, there is a need for a system of agricultural credit, but our observations in districts where there used to be mortgages at high rates of interest on the majority of the farms, and where long term credits were in vogue at the country stores since live stock raising and dairying have been adopted and consistently adhered to, the mortgages are being or have been wiped off to a large extent, cash is paid for practically all commodities purchased and tidy sums are in the bank accounts of the respective farmers.

Live stock farming is without doubt the safest and surest form of farming. There are no very lean years owing to failure such as so often confronts the farmer who specializes on grain or fruit.

ANIMAL IMPROVEMENT

L. Ogilvie writing in a recent issue of the Breeders' Gazette says:—

"The more settled a country becomes and the longer live stock improvement has continued the harder it is to realize high prices for any but the best male animals and the more the knife must be used. Male animals of fair quality become super-abundant. The higher prices of meat make this less important. A high quality in females leaves the breeder who would be successful no choice. He must have constantly better males or retrograde. A great deal of waste is saved because males that have proved themselves are not allowed to go to the butcher, but are carefully passed on from one herd to another so long as they are useful. Any association that helps to keep first-class males from the shambles is doing useful and constructive work. Immense areas can be populated with first-class stock by such means, while the process is so slow as hardly to be discernible where the stay of sires is but a year or two."

REVIEW YOUR EXPERIENCES

We have reached the close of the year 1916. This issue of the Maritime bears the insignia 1917. The first few days of the year is a good time for taking stock of what transpired during the past year. As you meditate on these things give some thoughts to the experiences you have had during the past season and endeavour to determine just where your weaknesses have been. Compare your practices with those followed by farmers of wider experiences and note how they agree. It is the part of wise men to adopt new methods whenever they are shown to be superior to the old. Remember it is never too late to begin good farming practices, although it may prove rather costly if delayed too long. The moral is, don't delay.

IT PAYS TO ADVERTISE

On the poultry page of this issue of the Maritime Farmer will be found an address delivered at the recent annual meeting of the Maritime Poultry Association by its president, Mr. A. F. Huston of Charlottetown. For an incentive to more active work in the production and marketing of poultry products read this address. And breeders of pure bred poultry, pay ye particular attention to the last paragraph. There is a hint in it as to how you may increase your business. A word to the wise is sufficient. Advertise in the columns of the Maritime Farmer.

* * *

Teach your sons and daughters how to live, and then let them decide who to live with.

* * *

Dry sleeping quarters are essential to the health of either pigs or sheep in winter.

* * *

Find out if you can, what the experimental farm in your province has been discovering this year that would be useful to you.

* * *

Co-operation of town with country is all right in its place, but look out for the middleman whose chief object is to get the farmer to increase his product so as to decrease the price he gets for it. That means more work for less pay, whereas what we farmers are after is more money for what we do raise.

The problem of good seed will be more acute next spring than ever. If you have not saved your own good seed we would advise you to buy early.

* * *

Farming has many discouraging features, but so has every other business. Experience will prove that farming has no more disappointments than the others.

* * *

It is said $100,000,000 worth of grains are annually used in distilleries of United States, and that if the grain thus used were turned into the food market, a shortage would not exist such as is putting prices so high now.

* * *

A good road between every farm and market is a reasonable and worth while proposition. As a fence is no stronger than its weakest spot, a road is no better than its worst part.

* * *

A contemporary says: "Do not complain of a publication that brings you plenty of inquiries (in advertising) but few sales. The fault will probably lie more with you and your handling of the inquiries than it does with the publication."

* * *

It takes a good farmer to keep up a farm after it has been put in order; it needs a better farmer though to improve it after it is run-down and make a living at the same time.

* * *

No one should expect to derive either pleasure or profit from a scrub herd kept in a poorly lighted, unclean, and fly-infested stable, or from a herd which obtains its chief sustenance from a nearby stack of straw.

* * *

The boy who is properly guided in his work with live stock will always see more in cows than the drudgery of milking, more in swine than the grunt and squeal, more in the horse than the patient servant, and more in the sheep than the golden hoof.

* * *

A real source of profit is to be found in bringing a farm up from a badly run down condition to a state of new fertility, good repair and modern equipment. To do this requires the work and brain of a real farmer.

* * *

Did you ever think of the relation of the farmer's bank account to the tool shed? Machinery depreciates faster in the weather than it does in use. The time saved by having a rust-free implement will soon pay for the shed.

* * *

A great deal of labor may be saved by hitching the gasoline engine to such machinery as the cutting box, pump, pulper or wood saw, not to mention the cream separator, washing machine and churn.

* * *

Are you taking the best care of your farm machinery? Is it properly housed? Have you greased or vaselined the parts that are liable to rust? Have you covered the various machines to prevent dust and dirt from working into the bearings and leaving a messy job to be cleaned up before you can again run the machine? Farm machinery is no more fool-proof than is the machinery used in other industries. The following reply to the question what is a gas engine in a recent number of The Farm Implement Trade contains a hint that is applicable to the care of all kinds of farm machinery. Read it.

What is a gas engine?

A gas engine is: A help or a hindrance. A money-saving machine or an expense account. A safe source of power or a dangerous contraption of the devil. A toy or a tool.

In other words a gas engine is just what you make it—it all depends on you.

N. B. POTATO GROWERS CONVENTION

(Continued from page 173)

It was moved by Mr. W. W. Hubbard, seconded by Mr. W. E. Palmer, and carried unanimously, that the report of the nominating committee be received and adopted.

The following resolutions were also moved, seconded and carried unanimously:—

That the acreage of potatoes entered in each instance in the field crop competition during the coming season, be two acres of Irish Cobblers and five acres of Green Mountains.

That competition be limited to members of the New Brunswick Potato Growers' Association.

That the arrangements for this competition be left in the hands of the Executive Committee.

That the Association become affiliated with the Potato Association of America.

That the Association endeavour to hold a summer meeting in conjunction with the Farmers' and Dairymen's Association, during the coming summer.

That the Secretary be instructed to write a letter of thanks to each of the commercial agencies for their donations towards the funds of the Association.

That a vote of thanks be tendered the speakers at the Convention.

That a vote of thanks be tendered the President, Secretary and Treasurer of the Association.

That the Convention do now adjourn.

There were 104 members and delegates present at this session, which closed at 6.30 p. m.

PRIZE WINNERS AT N. B. POTATO SHOW

Following is a list of prize winners at the New Brunswick Potato Growers' Association at Woodstock recently.

Class I.—Green Mountain Group.

H. Gordon, Chatham; W. E. Palmer, Scotch Lake; P. S. Bremner & Son, Chatham; W. A. Kelley, Jacksonville; N. L. Napier, Lower Woodstock; H. B. Parlee, Sussex; Allison Shaw, Hartland; Henry White, Chatham; W. H. Moore, Scotch Lake; H. W. Rogers, Woodstock; W. A. Gibson, Jacksonville; E. Lorne Hume, Florenceville.

Class II.—Irish Cobbler Group.

H. Gordon, Chatham; F. E. Henderson, Andover; Allison Shaw, Hartland; H. B. Parlee, Sussex; W. E. Palmer, Scotch Lake; G. L. Mallory, Upper Woodstock; W. A. Gibson, Jacksonville; C. H. Gray, Jacksonville; Henry White, Chatham; Bert L. Shaw, Upper Woodstock; J. C. Hunter, Florenceville; T. H. Manzer, Aroostock Junction.

Class III.—Any Long White Variety.

H. Gordon, Chatham; W. E. Palmer, Scotch Lake; Allison Shaw, Hartland; G. F. Neales, Summerville; A. A. H. Margeson, East Centreville; Edwin Estey, Woodstock.

Class IV.—Any Rose Variety.

W. E. Palmer, Scotch Lake; Allison Shaw, Hartland; G. G. Porter, Andover; James E. Porter, Andover; Mrs. E. W. Darcus, Fredericton.

Class V.—Any Red Variety.

H. B. Parlee, Sussex; Donald Innes, Tobique River; David Currie, Tobique River; W. H. Moore, Scotch Lake.

Class VII.—Best Collection of Any Four or More Varieties.

H. Gordon, Chatham; H. B. Parlee, Sussex; W. E. Palmer, Scotch Lake; W. H. Moore, Scotch Lake; Donald Innes, Tobique River; David Currie, Tobique River; J. W. Stevenson, Tobique River; A. A. H. Margeson, East Centreville.

Class VIII.—Best Advertising Seed Display.

W. E. Palmer, Scotch Lake; W. H. Moore, Scotch Lake; H. B. Parlee, Sussex.

MORE ABOUT OLEO AND BUTTERINE

Anet the article on the prohibition of Oleomargarine products in Canada by Mr. W. A. MacKay, Superintendent of Dairying for Nova Scotia, which appears on another page of this Maritime Farmer, we reproduce the following from the columns of The Breeders' Gazette. It explains some of the things we may look for if Oleo gains a footing in Canada and thus supports Mr. McKay's arguments:—

A Restaurant Man's Plea for Fair Play

"A Chicago man who operates nearly 100 pure food restaurants over the country took space in city papers recently to offer $1,000 reward to any one who could prove that oleo or imitation butter was served in his restaurants, used in his kitchens or bakeshops or kept in his commissaries for any purpose. He declared that he could save $100,000 a year by serving butterine instead of butter, and also stated that many a restaurant and high-priced cafe and hotel was effecting that saving by the use of imitation butter unknown to its patrons. This man asserted that any one has a perfect right to use butterine on his own table, but added vigorously that "no restaurant, cafe, or hotel proprietor has any business serving you butterine when you think you are getting butter. If they want to make extra profits that way, they ought to put up a sign and let you know."

"This has the right ring. The producer of butter and the purchaser of butter have no quarrel with the imitation product so long as it is not palmed off as the higher-priced article. When the cow-man feels the competition of a lower cost product, and when the householder pays the price of butter and gets an imitation that the retailer has bought at a less price, each has a perfectly well-grounded grievance. Of course in the utterance of wholesome truth this purveyor of pure food to the public aimed his broadside at competitors who make by deception the profits which he scorns to reap. It was one way to uncover a petty fraud, but he had a more effective weapon at hand. In the majority of states which exercise supervision over foods, all places that sell butterine, and all eating houses which serve it are required to placard that fact plainly. The Federal statute goes so far as to put a tax of 10 cents a pound on butterine when colored to imitate the real article, seeking in this way to prevent deception. The law could readily enough be invoked to suppress unfair competition. The enforcement of the Federal statute has been particularly strict of late."

A Comment by the Butterine Maker

"A capital illustration of the art of modern advertising was furnished when a prominent Chicago manufacturer of oleomargarine promptly seized the proclamation of the restaurant man as a text, and declared that his "position that butterine should be sold on its own merits is absolutely correct." And then deftly turning the economy argument to trade advantage this maker of the imitation product asserts that "every housewife in Chicago could save a proportionate amount by using oleomargarine," as it is a "clean, pure, wholesome food product made under the United States Government supervision, and the use of this product in the home is a compiment to thrift and judgment."

"It was neatly turned. It is certainly encouraging to have makers of the imitation goods assert publicly that butterine should be sold on its own merits. They have not always held that view. The ten-cent tax is evidence on that point. Of late years, however, most of the best-known makers of butterine have pushed it openly through advertisement, and labeled it properly and conspicuously. If that course had been pursued in the beginning, it is likely that the ten-cent tax would never have been levied. Evasion of the law against selling the imitation article colored to resemble butter and at the price of butter has been of rather recent court record. The dairy farmer and the butter manufacturer desire protection against this easily accomplished fraud and the consumer is entitled to it. If all makers were as aboveboard as the manufacturer quoted, and if dealers would not endeavor to palm off the colored imitation at the prices of the real, the matter of tax could be quickly removed from the field of controversy. The position of the butter industry is that sufficient tax should be levied to insure the enforcement of the law which seeks to bring butterine to the consumer under its own name and at prices relative to its lower cost of production."

THE MARITIME STOCK BREEDERS' ASSOCIATION

The annual meeting of the Maritime Stock Breeders' Association was held in the N. S. A. C., Truro, on January 4th at 4 p. m. A. E. Trites, president of the Association occupied the chair. There was a good representation of the stock breeders of the three provinces in attendance.

After a short address by the president, Mr. Fuller, the secretary, read the minutes of the last annual meeting and special meetings since held. He also gave a verbel report of the various transactions carried on by the Association during the year.

Greetings from the Nova Scotia Dairymen's Association then in session at Truro were also read.

A letter from the Maritime Poultry Association announced that J. P. Landry had been appointed a director by that Association to represent them at the Stock Breeders' Association board.

Mr. Fuller announced that owing to the Winter Fair Buildings, Amherst, being in the hands of the military authorities, the executive of the Association found that they could not hold the 1916 Horse Show and Winter Fair. They had however, decided to hold a Maritime Poultry Show, and as the town council of Amherst would not undertake to furnish quarters other than the Fair Building, the Moncton City Council was approached. The city of Moncton furnished heated and lighted quarters and consequently the fair was there held. The attendance at the Show was not very large, but otherwise the Show was a decided success. The Dominion Government gave $500.00. The governments of Nova Scotia, New Brunswick and Prince Edward Island $300.00, $200.00 and $87.50 respectively, as grants for the Show.

The question of cheaper rates for the transportation of pure bred stock on railroad lines, which was discussed at last years meeting had brought forth fruit and before shipping any pure bred stock farmers and breeders are requested to acquaint themselves with the new Tariff Rates on Live Stock No. 6L—30.

The financial statement showed a balance on January 1st of $1309.88. on the right side of the ledger.

A resolution asking that the Association make representations to the Fredericton Exhibition Commissioner re civil treatment for the exhibitors and that they be allowed to load their live stock during daylight hours of the last day of the Fredericton fair, was introduced and adopted.

The fair Boards of Halifax, Fredericton, St. John, Charlottetown and Chatham will be asked to pay second and third prizes, in cases where no competition exists, providing creditable entries are made.

The holding of a Winter Fair in 1917 was left in the hands of the incoming executive with the recommendation that they do their utmost to hold a fair during the second week of next December.

Committees were appointed to work with The Nova Scotia Farmer's Association and The New Brunswick Farmer's and Dairymen's Association re the framing of recommendations to the government of the respective provinces for the enactment of more adequate protection to sheep breeders from the ravages of dogs.

Messrs. John O'Brien, S. A. Logan and W. W. Black constitute the committee to confer with the Nova Scotia Farmers' Association and W. S. Harding, W. W. Hubbard and A. E. Trites will meet the New Brunswick Farmers' & Dairymen's Association.

The election of officers resulted as follows:

President—A. E. Trites, Salisbury, N. B.; Vice-President for N. B.—W. W. Hubbard, Fredericton; Vice-President for N. S.—S. A. Logan, Amherst; Vice-President for P. E. I.—Hon. Murdo McKinnon, Charlottetown. Directors for N. B.—R. L. Hicks, Dalhousie Jct.; A. McQ. Avard, Sackville; W. S. Harding, Hammond River; W. W. Hubbard, Fredericton.

Directors for Prince Edward Island—J. M. Laird, Kelvin Grove; J. F. Roper, Charlottetown; W. M. Lea, Victoria; Hon. Murdo McKinnon, Charlottetown.

Directors for Nova Scotia—S. A. Logan, Amherst; John O'Brien, Windsor; Laurie McFarlane, Fox Harbor Pt.; W. W. Black, Amherst.

Sec.-Treas.—F. L. Fuller, Truro.

SHORT COURSES AT THE N. S. A. C.

This is the day of efficiency. The best butter, poultry, fruit, eggs, vegetables, live stock and farm crops are what bring the top prices, the most profit for time and labor expended, and guarantee the future market. It takes thought and care to provide these, but from all standpoints it pays.

How to accomplish these results and be prepared for now and after the war is the keynote of the short courses now being held at the N. S. A. C., Truro. We had the pleasure of visiting the college a few days last week and sit in class with the young men who are attending the courses from Nova Scotia, New Brunswick and Prince Edward Island.

The attendance is well up to the capacity of the college and it certainly was a source of inspiration to listen to the efficiency talks by the various professors in their respective lines. The discussions and demonstrations are most helpful and the interest evidenced in this progressive work augur well for preparedness.

In the live stock pavillion talks on live stock judging with ample material for demonstration from the college herd and the herds of the prominent breeders near the college were eagerly followed and intelligently participated in by the student farmers.

Prof. Zavitz of the O. A. C., Guelph was in charge of seed judging classes.

The Ladies Short Courses are also well attended and particular emphasis is aid on economy in the guidance of home affairs by the instructors.

There is no waning of interest in regard to the N. S. A. C.

GROUND LIME STONE

On another page of this issue will be found the Pulverized Limestone advertisement of C. H. Peters' Sons, of St. John, N. B. The results of experiments conducted in the Maritime Provinces and elsewhere, with pulverized limestone is well known to readers of the Maritime Farmer. Pulverized limestone is the cheapest and safest agent to use in the sweetening of sour soils. Write to C. H. Peters' Sons for their prices and any information you may require.

HORTICULTURE

ORCHARD TROUBLES

Dropping of Apple Leaves.—Many leaves drop from apple trees in summer and cause anxiety to fruit growers. Probably the three most important reasons why the leaves drop are: First, that the tree may regain a proper balance between top and root. There is often a great leaf developmnt, owing to moist conditicns, and when drier weather comes, there are too many leaves for the tree to support, hence some of them drop off. Second, that under certain conditions, especially when there has been a wet season, leaves will scald and drop off. Spraying sometimes causes this scalding. Third, that the leaves are affected with a leaf spot disease. The development of this disease may, however, come after they become weak from lack of moisture to support them, or when the leaf is weakened by sunscald. As a rule, under good cultivation, there are quite sufficient leaves left to develop the fruit properly.

Spray Injury—Russeting of Apples.—For the past few years complaints have been made that spraying trees with Bordeaux mixture injured the apples, causing them to become russeted, the Ben Davis suffering in particular. There is no doubt that when Bordeaux mixture is not made with sufficient lime, injury will occur, but injury has followed the use of properly made Bordeaux, and it has been found that the climatic conditions which have prevailed, either before or when the spray was applied, have much to do with it. The worst injury has occurred in the districts bordering the Great Lakes and in the Maritime Provinces, where the air must be considerably moister than further inland, and in a damp season the air is still moister, hence the skin of the apples is more tender than it is where the atmosphere is drier, and when a spray or even heavy dew rests on the fruit during bright sunshine and hot weather, scalding and russeting follow. This may be due in part to the fungicide in the mixture. Russeting occurs even when trees are not sprayed, due, it is believed, to scalding caused by a heavy dew in bright, hot weather. It would be a good practice, where it is possible to carry it out to spray the south side of the trees in the morning and the north side in the afternoon, so that the mixture would have a chance to dry on the tree before the sun shone on it.

Water Core

In some seasons, and in certain parts of Canada more than others, a few varieties of apples become more or less water cored and are rendered less valuable on this account. This condition is now considered to be brought about by sap pressure caused by cool nights following very warm days. The transpiration of water from the leaves is more rapidly checked, than the upward flow, by a considerable lowering of the air temperature with the result that the flesh of the apple is flooded with sap.

Trees growing rapidly in moist soil are liable to be more affected than others making slower growth and trees which have lost part of their foliage through any cause are also more subject to it than trees with good foliage. Water coring is difficult to guard against as it is due to climatic conditions. There is likely to be considerable loss from water cored fruit if packed for export.—W. T. Macoun.

PROTECTION OF APPLE TREES FROM MICE AND RABBITS, AND CARE OF INJURED TREES

Every year thousands of trees are injured in Canada by mice, and, in the newer districts, a large number of rabbits also. There could be nothing more discouraging to a fruit grower, than to see his orchard which he had cared for, perhaps, for five or six years, ruined by mice; and yet this frequently happens. All this could be prevented if the farmer or fruit grower would use the information available and protect his trees from mice. Some years there is less injury than others, and this fact leads to carelessness, and when a bad year comes the trees are unprotected.

While the depredations from mice and rabbits in winter vary from one year to another, depending on the scarcity or abundance of food, the number of mice which are in the vicinity and the character of the winter, the injury is always greatest when the orchard is in sod, and when there is rubbish lying about; hence the latter should be removed before the winter sets in. In most cases it is not necessary nor advisable to have the orchard in sod, particularly when the trees are young, although it is highly important to have a cover crop, which also may sometimes become a harbour for mice. As mice may be expected in greater or less numbers every winter, young trees should be regularly protected against their ravages. Mice usually begin working on the ground under the snow, and when they come to a tree they will begin to gnaw it if it is not protected. A small mound of soil from eight to twelve inches in height raised about the base of the tree will often prevent their injuring the tree, and even snow tramped about the trees has been quite effectual, but the cheapest and surest practice is to wrap the tree with ordinary building paper, the price of which is merely nominal. Tar paper is also effectual, but trees have been injured by using it, and it is well to guard against this when building paper will do as well. After the paper is wrapped around the tree and tied, a little earth should be put about the lower end to prevent the mice from beginning to work there, as if they get a start the paper will not stand in their way. It may be stated, however, that although two thousand young trees have been wrapped with building paper for several years at the Experimental Farm at Ottawa, there have been practically no instances where the mice have gnawed through the paper to get at the tree. The use of a wire protector, or one made of tin or galvanized iron, is economical in the end, as they are durable.

In the north, protection from sunscald is almost as important as protection from mice. At the Central Experimental Farm, wooden veneer

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protectors have been used for several years past for the standard trees, as these protect from mice and on account of being loose about the tree leave a good air space which appears to protect the tree from those sudden changes of temperature which seem to be the main cause of sunscald.

There are a number of washes and poisons recommended for the protection of fruit trees and the destruction of the mice and rabbits, but none of these are very satisfactory, as if the mice or rabbits are numerous the poison has not sufficient effect upon them to prevent injury altogether. The following method of poisoning has been found fairly successful.

Make a mixture of one part by weight of arsenic with three parts of corn meal. Nail two pieces of board each six feet long and six inches wide together so as to make a trough. Invert this near the trees to be protected and place about a tablespoonful of the poison on a shingle and put it near the middle of the run, renewing the poison as often as is necessary.

The following formula, as a protection from rabbits, is recommended by the Department of Agriculture, Washington, D.C.: Unslaked lime, 20 pounds; flowers of sulphur, 15 pounds; water, 50 gallons (40 Imperial gallons). This is applied to the trunks of the trees with a brush.

Treatment of Injured Trees.

If a tree is badly girdled by mice it usually dies. If as soon as the wound is noticed it is cleaned and covered with grafting wax or some paste, such as sulphur, cowdung and clay, and drapped with cloth to exclude air and prevent the wound from drying out, there is a possibility of saving the tree if the girdle is a small one, as the sap which rises through the wood will continue to do so, and returning through the inner bark in an elaborated condition will cause growth to be made all around the upper part of the wound, and if the latter be not too large there is a chance of its healing over. If, however, the wood becomes dry before the bandage is put on, the tree will almost certainly die, although it may continue to grow throughout the season. When the wax and bandage are applied the tree should be headed back considerably to lessen the amount of transpiration of moisture, as there will not be as much sap rise as if the tree were uninjured, and the wood will thus dry out sooner than if it were headed back. If the girdle is near the ground, in addition to covering the injured part with wax or cowdung and clay, it is advisable to mound up the soil about the tree to cover the wound and thus help to prevent the wood from drying out.

Girdled trees are frequently saved, and more surely saved than by the above method, by conncting the upper and lower edges of the girdle with scions, which are inserted about an inch apart all around the trunk. This is known as bridge grafting. The more scions that are used the quicker they will grow together and form a new trunk, but two or three scions successfully grafted on a small tree will carry enough sap to keep the tree alive. A slanting cut is made at each end of the wound in the uninjured wood in which the ends of the scions are to be inserted. Strong, plump scions of the previous season's growth—not necessarily from the same tree, nor even the same variety—cut a little longer than the distance between the slanting cuts, are made wedge-shaped at each end. They are made a little longer than the distance between the cuts in order that when inserting the ends into the cuts it will be necessary to bend them, and thus have them under pressure, which helps to keep them in position. After inserting, some of the inside bark of the stock should remain in contact with the inside bark of the scion as it is here or at the cambium layer where union takes places. As soon as the scions are all placed the wound, especially about the ends of the scions where inserted in the stock, is covered with grafting wax. The ends are also at the same time bandaged with a piece of sacking around the trunk to aid in keeping the scions in place and to exclude the air. The tree should then be well headed back. The scions, if properly made and inserted, should soon unite with the stock and then carry the sap to the top of the tree.

Another method of bridging is to cut back the uninjured bark evenly all around the trunk and insert the wedge-shaped scions underneath the bark at the upper and lower ends of the wound. There are other methods also employed, such as using a scion beveled at each end. Also, boring holes with an auger at each end in the uninjured back and shaping the scion at each end so that it will fit into it.

One of the most satisfactory methods of utilizing the girdled tree is to cut it off close to the ground and insert a scion of some variety. This graft should grow at least three feet in height the first season and make a nice young tree.

A tree may sometimes be saved when the girdling is well above the graft by cutting the tree back so as to remove all of the injured part. Under such conditions young trees will usually start fresh growth and the strongest shoot may be selected to form a new trunk and top for the tree.

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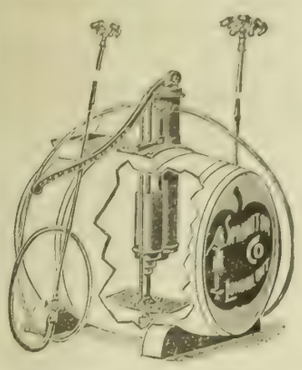

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OLEOMARGANINE IN CANADA

Editor The Maritime Farmer

A movement which is receiving a good deal of support in Canada today is that which aims to get the ernment to remove the restrictions which at present exist in regard to the importing, manufacturing and selling of oleomargarine in Canada. The movement has been prompted largely by the present high price of butter. Those who are behind the movement claim that, if it is consummated, it will result in giving the consumer cheaper butter. From this it might appear that the consumer was the real agitator behind the movement but such is not altogether the case as will be shown in the latter part of this article.

Naturally, dairymen all over Canada are opposed to this movement which they believe will militate against the splendid development which has taken place in dairying all over Canada and in no part more than in the Maritime Provinces. It is our intention, however, not to deal with the matter from the dairymen's standpoint but from the standpoint of the consumer.

First, oleomargarine, butterine and other so-called imitations of butter are made from a combination of different fats, such as lard, tallow, the leaf fats in the intestines of animals, etc. compounded with vegetable fats, which rendered and sterilized together result in a product somewhat similar in texture and flavor to butter itself. But this mixture, like all imitations, does not come up to the original article. It lacks the fascinating characteristics, the appetizing flavor and the aroma which are peculiar to good butter alone.

In the United States, where oleomargarine is manufactured and sold to a large extent, it was found that the sale was reducing the sale and consumption of butter. This however, was due not so much to the fact that so much oleo took the place of so much butter but rather to the fact that consumers of butter, knowing that there were imitations on the market, lost pleasure in eating what was set before them for butter and often did without fearing lest the seeming genuine article were an imitation. For this and other reasons, legislation was enacted prohibiting the manufacture and sale except under certain restrictions, the manufacturer and seller having to pay license fees and comply with very stringent regulations. To carry out the provisions of this legislation, an army of inspectors was employed but despite all the restrictions and the methods taken to enforce them, it is stated that the law is being constantly broken.

Nor has this manufacturing and selling of oleomargarine in the United States given the consumer any substantial relief. For the imitation article is held as close to the price of the genuine butter as it can be sold. However, since the imitation is manufactured from cheap fats, both the manufacturer and the seller realize handsome profits.

From the foregoing consideration, it should not be hard for the people of Canada to get at the real source of the agitation for the removal of these restrictions in regard to oleomargarine

Coming apparently from the consumer, there is little doubt that the agitation con be traced to the manufacturer who has the biggest interest at stake in the matter.

To sum up the situation:

No permanent relief from the high price of butter would be obtained for oleomargarine would be held at as high a price as possible. The fact that when eating so called butter a person would always be suspicious that it was the imitation and not the genuine article, would take away the zest from eating one of the most healthful and wholesome articles of diet. It may be claimed that legal restrictions would prevent this result, but such has not proven the case in the United States.

To enforce the restrictions an additional tax would have to be levied on the people to pay for the necessary inspection.

For all these reasons, we appeal to the consumer just as strongly as to the dairyman to use his influence to prevent the authorities at Ottawa from changing the present law. And we urge both consumer and dairyman to move quickly in letting their objections be known. This can be readily done through such channels as the Trade Unions, County Farmers' Associations, Women's Institutes, Local Council of Women and many other organizations whose interests are identified in matters of this kind.

The whole question is worth the careful consideration of every consumer as well as every dairyman in Canada.

W. A. McKay, Dairy Superintendent,
W Province of Nova Scotia.

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No one has mastered the art of dairying until he is able to ripen cream thoroughly. The losses from poorly ripened cream may run all the way from 25% to 33 1-3%—too much for profit.

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The man who runs a separator on a floor that is not level invites early wearing out of a costly machine.

A dairy thermometer costs a quarter and it may save a dollar's worth of butter every churning.

An aerator is a fine thing. Save on something else and get one. It will shorten labor.

It is hard to beat the good old barrel churn. I never felt like exchanging ours for any of the modern substitutes.

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Some cows make firmer butter than others. The home dairyman never ought to keep a cow whose milk cannot be made into good hard butter. The world demands butter that will "stand up."

A good fine strainer to catch the particles of butter that come through with the buttermilk will save many a dollar.

Share the skim milk with the hens. They make as good use of it as any creature on the farm. Don't scrimp the calf or the pigs, however.

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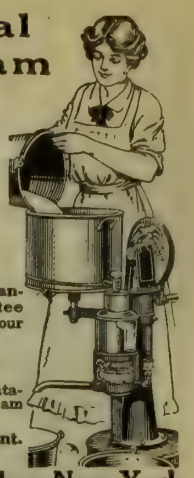

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sult she was so emaciated and weak at the end of the period that she could hardly stand, yet she had produced in the month approximately the same amount of milk as she had in the corresponding thirty days of her previous lacation period when she had been fed enough to meet both production and maintenance requirements. Her inherent tendency to produce milk had been so strong that she had ruined her body but had not stopped giving milk.

This inherent ability to produce milk is present in every dairy cow to a certain extent, and should be given a chance to develop at a time of freshening. One of the greatest mistakes made by dairymen is in feeding cows heavily the first month after they freshen. Most men believe that such a practice is necessary in order to make a cow come to her milk; but the test at Missouri demonstrates that it is not the feed that causes the milk secretion the first thirty days; it is the birth of the calf and the consequent stimulation of the mother to furnish feed for her offspring.

A cow's ability to produce milk is limited by two factors: First, her inherent stimulus, as represented by her dairy breeding; second, her capacity to eat and digest food. A profitable producer must have both to a marked degree.

Parturition is a severe strain on a cow's system, although in most cases no particular outward sign is visible. For months the blood has been flowing to nourish the growing fetus; then the calf is born and there is a quick change of blood from the fetus to the mammary organs. If at the same time heavy feeding is started an extra supply of blood is called to the digestive tract. Such a strain will not be apparent immediately, and the cow will seem to be doing well. But bad results will show later. About the sixth or eighth week the milk yield will drop several pounds and the milker will be puzzled to explain the reason. The explanation is simple: The strain of the heavy feeding early in her lactation period has had its effect, and her system has rebelled.

On the other hand, take the cow that has been carefully handled. When she has freshened feed has been given to her as her milk has increased. There has been no forcing to make her come to her milk; her natural stimulation has been allowed to take care of that. This cow will develop her milk-producing qualities and her digestive capacity at the same time, with no undue strain on either. When she reaches her full milk flow and her full feed at the fifth, sixth or seventh week she is there to stay because her whole system has been gradually developed and strengthened, and is in sympathy with the work that it has to do.

A pair of milk scales is indispensable at this time. A record of the cow's performance for the year is a splendid thing to have, but it is as a guide to the intelligent feeding of the cow that the scales stand pre-eminent. Hang the milk scales in a convenient place in the barn and watch the milk production after the cow freshens. Let the feed follow the milk for the first six weeks, rather than make the milk follow the feed. The results will not be startling for the first week or two; the cow's production will not jump two or three pounds daily, but when she does reach her limit she will stick to it.

C. W. ADAMS.

Dryness without dust in the hogs' quarters is appreciated and paid for by all hogs can give in the way of recompense—more profit.

It is essential that the composition of the various feeds be known before attempting to compound a balanced ration for any kind of live stock.

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SINCE 1892 the National Buttermakers' Association has held butter-scoring contests each year in connection with its Annual Convention; and at every such Convention, butter made from cream separated by a De Laval Separator has scored highest. This is a 100 per cent record for the De Laval. Twenty-three wins out of twenty-three contests. No room for chance there. Only unusual merit made such a record possible.

But that is not an unusual record for the De Laval. At the great National Dairy Show at Springfield, Mass., in October, 1916, butter made from De Laval-produced cream scored highest in both the creamery and dairy classes, while De Laval cream scored highest in the cream classes.

The juries at the great national and international expositions have invariably acknowledged the superiority of the De Laval. They awarded the Grand Prize to the De Laval at the Panama-Pacific Exposition, as also at Buffalo, Chicago, St. Louis, Paris, Brussels, and all the great world expositions for 25 years.

As a matter of fact, it is very easy to prove De Laval superiority. All that is needed is a careful comparison with any other machine, either as to design and construction, or, more important still, as to performance. But such proof is no longer necessary to a well-informed dairyman or farmer. He has seen proof of De Laval superiority piled up and multiplied so many times that it is no longer open to question by anyone. It is an accepted fact.

If you are without a cream separator or need a new one, the only question you need to ask is, "Which is the proper size De Laval for me to buy?"

See your De Laval agent immediately, or, if you don't know him, address the nearest De Laval main office, as below for any desired particulars.

The De Laval Company, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

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OUR MOTTO:
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QUALITY Counts, Certainly

You who are looking for a CHEAP but SERVICEABLE STOVE (whether it's a Cook-Stove or a Heater) ought to be interested in the line we manufacture in Fredericton:—

"NIAGARA" Cook Stove, 2 sizes. Wood or Coal.
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"CARLETON" Hall Stove, 3 sizes. Wood.
"TIDY" and "SQUAT" Coal Heaters. ("TIDY" in 3 sizes.)
"RAMDOWN" Stove for camp use. 3 sizes.

These are PLAIN stoves, prices ranging from $10.00 to $16.00, but they will DO THE WORK satisfactorily. Ornamentation does not help a great deal in WARMING the house on a winter day.

No particular quality of WOOD required. Good bakers. Good heaters.

IN FREDERICTON we also make WOOD FURNACES, as well as Lumbering Machinery, Builders' and Contractors' Supplies, Stove Utensils, IRON FORGINGS, IRON and BRASS CASTINGS, ETC., ETC.

The Smith Foundry Company, Limited,
FREDERICTON - - N. B.

LIVE STOCK.

PIG FEEDING WITH PROFIT

Before attempting to consider methods of feeding the pig, it is well to consider briefly his early feeding habits. The pig in his native state lived mostly on marshy ground where he devoured large quantities of plant foods, such as nuts and roots; both of a concentrated character, but containing small amount of bone-building materials. He must supply himself with minerals, so he ate snails, clams, animals, and fish—all rich in the necessary bone-building materials. Since man has forced the pig under domestication to change his habits of life, particularly his food supply, it is important to consider the effect on the pig.

When we compare the domestic hog with the native wild hog of Europe we are astonished at the contrast. There is little doubt but that both selection and improved methods of feeding have played an important part in this change. By selecting the best types for breeding and by developing these through feeding, we have produced a hog that stands high as a meat-producing animal.

Too much stress cannot be laid upon the importance of mineral matter in the feed. The minerals calcium, phosphorus, sodium, potassium, and chlorine are probably the most important to consider in the ration. We supply all the necessary sodium and chlorine by feeding common salt. Generally all of the others, except calcium and phosphorus, occur in sufficient quantities in most feeds. Forbes, of the Ohio Station, says: "Our results show that, whatever the protein deficiencies of corn, its mineral deficiencies are more pronounced, since, in balance experimade manifestmade d tn ments, the deficiencies in calcium and other minerals are immediately made manifest by negative balances or deficient storage, while the protein deficiencies, whatever their nature, allow liberal nitrogen retention." Rcent investigations show that calcium or lime is deficient to a dangerous extent in most concentrates, and that the ratio of calcium to phosphorus should be close to 1 to 1 to make normal bone development. Bran has been regarded as a good feed to supply all necessary minerals. Experiments in feeding bran show diseases developing in horses when roughages were limited. The same may be said for oats. With both bran and oats the cause seems to be too much phosphoric acid in proportion to calcium. If the hog were able to consume roughages to a considerable extent, sufficient mineral could be supplied in this way. Unfortunately this is not the case, and the lime must be supplied in other ways.

As has been said before, all of the cereal grains are low in lime, and these feeds must be depended upon as a basis of all swine rations in this country. There are two possible ways by which the necessary lime may be supplied, viz., 1, by adding tankage, meat meal, or buttermilk; 2, by providing pasture for hogs, such as alfalfa, clover, rape, cowpea, soy bean, or Canadian field pea. Tankage or meat meal has given the best results as a source of protein and minerals for dry lot feeding. They are conducive to larger and stronger bone development than buttermilk. When buttermilk can be obtained at a figure of not above 20 cents per cwt. it can be regarded as a very good supplement to the gains. Pasture crops such as those mentioned above not only supply protein and minerals, but they also afford the pig a good chance for exercise—a point of considerable importance, especially with breeding animals.

Under some conditions it may be advisable to furnish protein to a grain ration by using shorts, oil meal or cottonseed meal. All these feeds are all right as far as the supply of protein is concerned, but they contain too high a proportion of phosphoric acid in proportion to lime. On rations of this kind, such minerals as bone ash, charcoal, rock salt, sulphur, and lime should be kept constantly before the hogs in separate compartments of a trough. This method of supplying minerals, while not the best, is very good on rations that are deficient. Experiments tend to show that lime, as it occurs in plants or animals is more valuable than that furnished as above stated.

The farmer should use slightly different methods for feeding the breeding herd from those used for the fattening hog. In fattening the chief object is to produce a maximum weight and finish in a short time and at a low cost. one development is not especially wanted except that sufficient bone to carry the animals to market and to support a large amount of flesh is wanted. With breeding sows and boars much trouble is often experienced unless good, strong bone is developed. In fact, people are hunting for what we call the "Big Type" breeds of hogs because they want bone development. It is common to see sows fed on corn alone break down in pastern or become paralyzed in the hind quarters due to a shortage of lime in the ration. The developing litter in the pregnant sow also draws heavily on the mother for minerals and these must come either from the feed or from the sow's skeleton. A large supply of mineral matter also develops a large frame in the sow and in the fattening pig, both of which are desirable.

One of the important questions that confronts the feeder is the supplying of the necessary minerals, especially calcium, to all his hogs in proper amounts. Since the cereals are more or less of an artificial diet for the pig, and low in lime, it is necessary to take caution to supply these either by pasture, by animal by-products, or in the inorganic form; when given in the last-mentioned manner, they should be fed separately, so that the pig may select what he needs, and not fed in the form of a mixture, as no mixture is as good as allowing the pig to select just what his appetite calls for.

FRANK A. HAYES,
Iowa Experiment Station.

CANADIAN NATIONAL LIVE STOCK RECORD ASSOCIATIONS MEETINGS, 1917, OTTAWA

Monday, Feb. 5, 2.00 p. m.—Canadian Swine Breeders' Association, Directors Meeting; 2.00 p. m.—Canadian Thoroughbred Horse Society, Directors Meeting; 3.00 p. m.—Canadian Thoroughbred Horse Society, Annual Meeting; 4.00 p. m.—Canadian Pony Society, Directors Meeting; 7.00 p. m.—Canadian Jersey Cattle Club, Directors Meeting; 8.00 p. m.—Canadian Swine Breeders' Association, Annual Meeting; 8.00 p. m.—Dominion Shorthorn Breeders' Association, Directors Meeting; 8.00 p. m.—Canadian Pony Society, Annual Meeting.

Tuesday, Feb. 6, 9.00 a. m.—Ontario Swine Breeders, Directors Meeting; 10.00 a. m.—Ontario Swine Breeders, Annual Meeting; 11.00 a. m.—Dominion Shorthorn Breeders' Association, Annual Meeting; 1.00 p. m.—Canadian Jersey Cattle Club, Annual Meeting; 2.00 p. m.—Ontario Berkshire Club; 3.00 p. m.—Ontario Berkshire Club; 2.00 p. m.—Canadian Standard Bred Horse Society, Directors Meeting; 4.00 p. m.—Canadian Sheep Breeders' Association, Directors Meeting; 8.00 p. m.—Canadian Standard Bred Horse Society, Annual Meeting; 8.00 p. m.—Canadian Sheep Breeders' Association, Annual Meeting.

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Wednesday, Feb. 7, 9.00 a. m.—Ontario Sheep Breeders' Association, Directors Meeting; 10.00 a. m.—Ontario Sheep Breeders' Association, Annual Meeting; 2.00 p. m.—Canadian Hackney Horse Society, Directors Meeting; 8.00 p. m.—Canadian Hackney Horse Society, Annual Meeting; 8.00 p. m.—Clydesdale Horse Association of Canada, Directors Meeting.

Thursday, Feb. 8, 9.30 a. m.—Canadian Shire Horse Association, Directors Meeting; 10.00 a. m.—Canadian Shire Horse Association, Annual Meeting; 10.30 a. m.—Clydesdale Horse Association of Canada, Annual Meeting; 2.00 p. m.—Canadian Hereford Association, Directors Meeting; 3.00 p. m.—Canadian Hereford Association, Annual Meeting; 7.30 p. m.—Ontario Horse Breeders, Directors Meeting; 8.00 p. m.—Ontario Horse Breeders, Annual Meeting.

Friday, Feb. 9, 9.00 a. m.—Dominion Cattle Breeders' Association, Directors Meeting; 10.00 a. m.—Dominion Cattle Breeders' Association, Annual Meeting; 10.00 a. m.—Canadian Kennel Club, Directors Meeting; 2.00 p. m.—Canadian Knenel Club, Annual Meet-

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Are you taking advantage of ALL the modern methods of saving time and trouble? Are you up-to-date in your shaving as well as in your work? Are you using a
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OF THE HEART
SHORTNESS OF BREATH
CURED BY
MILBURN'S HEART AND NERVE PILLS.

Mrs. S. Walters, Matapedia, Que., writes: "I wish to let you know how much good I have received by taking your Heart and Nerve Pills. I was suffering from palpitation of the heart and shortness of breath. The trouble with my heart was caused by stomach trouble.

I had tried all kinds of medicine, both patent and doctors', but I found none relieve me like Milburn's Heart and Nerve Pills. I believe anyone suffering like I did should use them. I only used four boxes and I now feel like a different person."

Milburn's Heart and Nerve Pills have been on the market for the past twenty-five years and have a most wonderful reputation as a remedy for all heart and nerve troubles.

Price 50 cents. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont

The Nova Scotia Fruit Growers' Association

will hold their annual meeting this winter at

Lawrencetown, Anap. Co., N. S.

This is a three day Convention and is looked forward to by Valley Fruit Growers as the BIG event in the Horticultural year.

Keep the dates in mind

Jan. 16, 17 and 18, 1917

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Secretary,
Port Williams, - - N. S.

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"THE MOBILIZATION OF BRAINS," said Secretary Daniels, "is a greater need than anything else." The Business Success of any Corporation or Private Individual is exactly dependent upon the COMBINED BRAIN POWER BACK OF IT and that means to include the intelligence of the office-boy as well as the president. We can help you.

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And How to Feed
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ing; 2.00 p. m. Canadian Trotting Association, Directors Meeting; 3.00 p. m. —Canadian Trotting Association, Annual Meeting.

BEEF $1.75 A POUND ON FOOT AT THE INTERNATIONAL

The Breeder's Gazette says in a recent issue:—

"An agitated press and emotional "women's clubs should fall more vig"orously than ever to beating the tom"toms. The grand champion steer at "the International, California Favorite, "sold for $1.75 a pound, and the mil"lionaire automobile makers in De"troit, to which city the bullock goes "for holiday beef, will not be able to "buy prize winning rib roasts and por"terhouse at the old-time price of 25 "cents a pound. Therefore summon "grand juries, spend thousands of "dollars in putting a horde of special "investigators in the field, and watch "two-year-old steers grow in a minute "—not!

"The price of $1.75 a pound on foot "for a steer, and $28 a hundred for the "champion car load, are merely symp"toms. Not every layman can inter"pret them aright, nor can the wild-"eyed leather-lunged bellower for boy"cotts and embargoes prescribe a sane "remedy. Those knowing to trade con"ditions understand what it all means. "And even they were scarcely prepar"ed to see the record of the first Inter"national, set at $1.50 a pound in an "enthusiasm which sought to encour"age the firm establishment of the "show, so far surpassed. It was an al"together worthy object on which this "stimulating price was lavished, the "young whiteface steer from the Gold"en Gate. Not the least of the lessons "emphasized is that prime beef can be "made from barley, oats, and bran. "More significantly this coast triumph, "winning a champion and reserve with "bullocks bred and fed in the college "herd, illustrates how faithfully these "educational institutions are striving "to lead the industry into lines of pro"fitable production."

The Grand Champion, California Favorite, was a senior calf sired by Prime Lad 11th, a Prime Lad bull, out of a Shorthorn cow got by a son of Glenbrook Sultan, combining in his veins cross-currents of champion blood of the Hereford and Shorthorn breeds. Carrying the white face and the Hereford red, deprived of his horns, this precious bullock weighed 1130 pounds at 13 months and a few days, and was bred, fitted and shown by the University of California.

The champion car load sold for $28.00 per cent, consisted of fat Angus yearlings.

The grand champion car load of lambs (grade Shropshires) bred and shown by Butterfield Live Stock Co., Weiser, Idaho, were sold at 21½ cents per pound.

The grand champion barrow was a Poland-China.

The champion beef carcass showed a dressing percentage of 63.08.

When tuberculosis in animals attacks the udder it is especially dangerous because then the germs are very liable to be found in the milk. The tubercular cow very often appears in poor condition. She will look thin and run down and have a rough coat of hair, with a hide that feels harsh and rough.

* * *

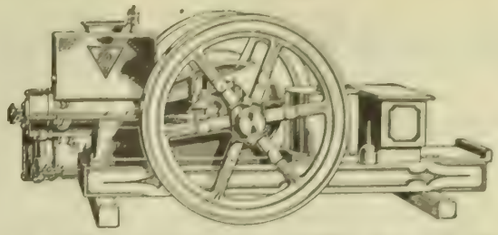
Salt added to the ration improves the flavor of the feed and may cause more to be eaten, but it does not seem to cause a larger per cent. to be digested.

* * *

Carrying too far inbreeding impairs constitutional vigor and sometimes makes animals infertile, but when done with care and intelligence it is a means of fixing certain desirable characteristics.

ALPHA

The Best Gas Engine to Buy



WHEN selecting a gas engine, the most important thing is to get a good engine. There is no economy in buying an engine that is going to require frequent repairs and that is likely to balk just at the time you need most to use it.

The wise man considers service, reliability and durability first, and price second. Selected on this basis, the ALPHA is the logical engine to choose, because it is the simplest and most durable in construction and the most reliable in operation. It runs smoothly and powerfully on a minimum consumption of either gasoline or kerosene, and operates on a simple magneto without the use of any batteries.

It is so simple that a woman or a boy can start and operate it, and the sensitive governor, which acts the instant there is the slightest variation in the load, insures steady running without any waste of fuel.

Before you put any money into a gas engine, investigate the ALPHA—and remember that the man who buys the best is never sorry.

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, sawing, traction or portable style, and with hopper or tank cooled cylinder.

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Too fast drinking of milk sometimes causes young calves to have spasms and convulsions. This may be prevented by making them drink slowly. It is also well to feed the milk in smaller quantities and oftener.

Big Ben

A *Westclox* Alarm

To Beat the Time Clock

FIVE A. M. for factory men who beat the time clock at the works. Big Ben gives 'em their breakfast call long before the whistle toots.

They used to pound the pillow right up to the last dot—until they learned a better way—as the paymaster soon found out.

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THE HORSE

SOME STABLE VICES AND WHIMS

Many horses have the habit of rolling in the stable. This somewhat dangerous for the horse, as he is likely to get fast, particularly if his stall is rather narrow. When the horse attempts to roll and stays over on his back the stall is too narrow for him to go on over, so he cannot get up, and as it is often impossible for him to roll back, he gets fast. The longer he struggles while lying on his back the worse his conditions becomes. This habit is due perhaps to lack of opportunity to roll. The horse should be turned to a paddock for a few minutes each evening so that he may frolic. To overcome the habit, secure a small ring and sew it in the top of the halter. Suspend a small rope from a beam or the ceiling so that it will hang directly over the horse's shoulders when standing at the manger. Attach a snap to the lower end of the rope and snap into the ring at the top of the halter. This rope should be of sufficient length to allow the horse to get his nose to the ground about where his front feet usually stand. This appliance will permit the horse to lie down, get up and do as much as he likes, but he cannot place the top of his head to the ground. As he can not roll without first placing the top of his head on the ground this is a very efficient arrangement for over-coming the habit. To lead the horse from the stable, it is only necessary to unsnap the rope at the top of the halter and untie the halter.

Pawing with the Forefeet.—This is a disagreeable habit, usually due to insufficient exercise or to restlessness when the animal is left alone in the stable. It causes useless fatigue and a rapid wearing out of the shoes. The noise that the horse makes while pawing is almost unbearable, especially at night. To avoid the habit exercise the horse regularly. To overcome it, buckle a leg strap around the foreleg just above the knee and from it suspend a block of wood about two inches square and four inches long, so that it will hang about the middle of the cannon.

When the horse attempts to paw, the block strikes him. In case the horse is very sensitive substitute a corncob for the block. Another good plan is to use a heavy strap provided with a buckle at either end and buckle the two forelegs together. This strap should be of the proper length to permit the horse to stand normally. With this appliance he can lie down, get up, move backward and forward, but is unable to paw. Some horses that paw badly in a common stall will cease if placed in a box stall, particularly if bedded with sawdust.

Rubbing the Tail.—Many horses acquire the habit of rubbing the tail against the sides of the stall or other surrounding objects. This is very undesirable, as the hairs soon become tangled, break off and disfigure the tail. While there may be several causes for it, the principal ones are intestinal troubles, mange or unclean skin, causing intense itching, and infirmities of temper. To overcome the habit the treatment will vary according to the cause. If due to intestinal worms they must be removed, when the horse will cease to rub his tail; if due to mange or dirty skin, the disease must be cured and the skin kept clean; whereas, if due to temper other means must be employed. Some horsemen recommend the applying of a bandage around the dock, while others suggest tying two or three separate pieces of tape or ribbon around the tail, one near the tail-head, a second near the middle of the tail-bone and a third near the lower end of the bone.

Chewing Tie-Strap.—Occasionally the horse contracts the habit of chewing his tie-strap. It is probably due to the salty taste of the leather, as he usually begins by licking and finally takes to chewing the strap. To overcome the habit some horsemen recommend to keep rock salt before the horse for him to lick, although the best plan seems to be that of substituting a chain for the leather strap.

Gorging Grain.—Many horses have the disagreeable habit of gorging their grain and swallowing it without mastication. This may result in fatal colic. To overcome the habit give the horse a drink and feed some hay before feeding the grain. Another very good plan is to feed the grain in a rather large, flat-bottomed grain box provided with pockets, as this arrangement prevents the horse from getting much grain at a mouthful. Some horsemen recommend placing round stones in the grain box, but the confirmed grain gorger is usually an adept at throwing stones out before eating the grain.

CASE OF "CONTRACTED FEET"

A correspondent says: "We have a young horse which is stiff in his front legs. He appears to be sore in his front feet and in traveling goes forward on his toes. His hoofs are dry and feverish and grow fast. The horn is not flat, but straight up and down. What had we better do for him

This is no doubt a case of navicular disease, sometimes called contracted feet. A writer in a recent number of a veterinary paper discusses this disease as follows.

As is very well know, a horse suffering from navicular disease goes on his toes; this is to save the back part of the foot, where the disease is; the horse consequently goes lamer down hill. when the heel comes in contact with the ground first, and receives the jar and jolt mostly on this spot; in laminitis, it is directly the reverse; the chief seat of this disease is all round the front and sides of the foot, consequently the animal goes on his heel to save the front, and is lamer going up hill when the toe strikes the ground first and receives the most jar and concussion. The treatment I have prescribed must be continued until there is improvement in the animal's movements. When this is noticeable, it proves that the inflamed and congested condition of the foot is subsiding. If the shoes have not been removed, have them taken off now (this must be always done the moment it is practicable). If the horse lies down in the early stage, it is an excellent opportunity to remove them, which must not be lost. When it is certain the horse is improving, reduce the medicine to half doses, then to twice a day, and so on until it is gradually stopped. I am no medicine fiend, and the less we can do with the better. Medicine must, however, be given, and is an urgent necessity in very many cases, but lots of horses are made much worse and often killed by the continuous and injudicious use of drugs. It is the same with man; there are hundreds, yes, thousands of medicine cranks who would rather take a pull out of a medicine bottle, or swallow pills or tablets, than drink a glass of "old crusted." It was only a short time ago that one of these "walking drug stores" told me that he felt much worse that morning, although he had taken sixty-three little globules. I told him to go and order a coffin. Medicine, as I say, is a necessity, but directly you see that nature (the great doctor) is stopping in, stop the medicine, or reduce it, and leave the rest to this kind nature and good nursing.

If the appetite does not come on as it should, a few doses of the following will generally stimulate it:

Sulphate of quinine, 0 grains; sweet spirits of nitre, 1 ounce; tincture of gentian, 1 ounce; cold water, 6 ounces.

This may be given three times a day for a few days, or until the appetite returns, about half an hour before meals. When the patient gets so that he can walk about, the best thing to do is to turn him out into a soft, swampy meadow. I do not mean a place where he will sink to his knees and hocks at every step, but a nice, soft, cool place with dry places where he can lie down, and which he will always find out when he wants to, for a horse likes a wet bed to lie on just as much as a man does. After he has been out for ten days or a fortnight, apply the following excellent blister to the coronets. Of course, he will have to be taken up from pasture to have the blister put on and kept up for a week or so, and then turned out again until he has thoroughly recovered.

Biniodide of mercury, 1 drachm; powdered cantharides, 2 drachms; lard 3 ounces.

Mix thoroughly together and use as directed.

SEVERED TENDONS

Have a horse that had the tendons of his hind leg cut half way between fetlock and hock during last July. When it healed the tendon healed either too long or else they are weak, for when he steps on his foot it pains him and he keeps his foot well forward all of the time. If he puts his whole weight on it the fetlock rests nearly on the ground.

We still have a long shoe on him with a rod upthe back of leg, which holds foot in very nearly proper position.

The above symptoms are noticed when the shoe is taken off to reset.

One veterinary advised to recut and sew tendon, while another says that if we keep foot in proper position the tendon will get strong.

What would you advise?—M. H. F.

You say the tendons were cut. Now if both tendons are completely severed it will take a long time to effect a cure and probably the animal will never recover enough to be of any use.

I don't think it would be advisable to have the tendons recut and operated on, as you would find a lot of adhesions which would be quite difficult to disect, and also the healing would be tardy. I would advise keeping the long shoe on him and apply some stimulating liniment to the part if it is healed up.

The horse should have been put in a sling when the accident occurred and kept there until union of the tendons took place. I treated one last summer and he made a good recovery in three months.

The horses known in various localities as Hambletonians trace to the stallion known as Rysdyke's Hambletonian, or Hambletonian, or Hambletonian 10th. They are the best-known family of American trotting horses. Hambletonian 10th was foaled in 1849 and died in 1876. It is said that during his 21 years of service his fees amounted to over $185,000. Hambletonian 10th was sired by Abdallah by Mambrino, a son of imp. Messenger, a Thoroughbred horse of considerable note. His dam was a granddaughter of imp. Bellfounder and traced to imp. Messenger at least twice, so that Hambletonian 10th was largely of Thoroughbred origin. More trotting horses of the present day trace to Hambletonian 10th than to any other horse, and he is the founder of by far the most noted family of that breed.—Reply by Prof. E. A. Trowbridge, University of Missouri.

LAME HORSES PUT BACK TO WORK QUICK

TRY Kendall's Spavin Cure. It has *saved* a great many horses—has put them back to work even after they had been given up. Over 35 years of success has *proved* the merit of

KENDALL'S Spavin Cure

HUNTSVILLE, ONT., March 9th, 1916.
I have used a good many bottles of Kendall's Spavin Cure for sprains and lameness and I do not think it has an equal, especially in stubborn cases. Kindly send me a copy of your *Treatise on the Horse.* G. T. YOUNG.

Sold by druggists everywhere. $1.00 a bottle, 6 bottles for $5.00. Get a copy of "A Treatise on the Horse" from your druggist or write

Dr. B. J. Kendall Company,
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"KING OF PAIN"
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I was cured of terrible lumbago by
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—Rev. Wm. Brown.

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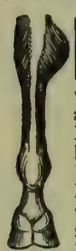
You Can't Cut Out
A BOG SPAVIN, PUFF or THOROUGHPIN, but



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TRADE MARK REG. U.S. PAT. OFF.

will clean them off permanently, and you work the horse same time. **Does not blister** or remove the hair $2.00 per bottle, delivered. Will tell you more if you write. **Book 4 K free.** ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments. Enlarged Glands, Goitres, Wens, Cysts. Allays pain quickly. Price $1.00 and $2.00 a bottle at druggists or delivered. Manufactured only by W. F. YOUNG, P.D.F. 124 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

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VENO'S LIGHTNING COUGH CURE.

As a remedy for Catarrh in all its various forms, Veno's Lightning Cough Cure is incomparable. The healing principles in Veno's soothe the irritated surfaces of the air passages, and restore the mucous membrane to healthy, natural action. Then the stopped-up feeling, the morning cough, and constant clearing of the throat, so characteristic of nasal and throat catarrh, are soon overcome and cure follows, more or less rapidly according to the severity of the case. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

The Fact

That in spite of war conditions our December attendance far exceeds that of any previous year of our 49 years' history, is prized, with much gratitude, as evidence of public appreciation of work faithfully performed.

Our New Term begins Wednesday, January 3rd.

Send for Rate Card.

THE ST. JOHN BUSINESS COLLEGE
S. KERR
Principal

POULTRY.

THE PRINCE EDWARD ISLAND EGG & POULTRY SITUATION

According to the Canadian Census and statistics, Prince Edward Island had 760,939 head of poultry valued at $275,172 in 1911, an increase of 179,149 head, or 30.79% over the figures for 1901, and this Island flock produced eggs to the value of $563,426.

On account of the many channels through which eggs and poultry are marketed today, it is difficult to arrive at the exact or even approximate production of Prince Edward Island. We do know, however, that the price paid to the producer—the farmer—has doubled and trebled in the last five years until today the farmer is receiving 45c per dozen for fresh gathered eggs right at his door.

It is true that in the ordinary processes of development the value of eggs would not have been so rapid, because, as is very generally known, Prince Edward Island has been, and is still to some extent, handicapped in marketing her produce by being cut off from the mainland. A new feature entered into our poultry business in September, 1912, when the Live Stock Branch of the Department of Agriculture commenced an educational campaign, which was responsible for the formation of Egg Circles, and the fostering of the idea of marketing co-operatively.

The Prince Edward Island Co-operative Egg & Poultry Association with headquarters at Charlottetown, is today the result of the work instituted by the Department of Agriculture in 1912, and carried on for three years under the supervision of Mr. T. A. Benson. Since August, 1915, Mr. Kerr has been continuing this work, and today Prince Edward Island has fifty-one Egg Circles with a membership of over three thousand five hundred.

The eggs produced on the farm operated by these Egg Circle members are shipped to a Central Candling Station in Charlottetown, and from there go to Boston, St. John, Halifax, Quebec, Montreal, and other market centres. This fall, shipments have also been made to Manchester, England, and Glasgow, Scotland.

It is anticipated that fully a quarter of a million dollar's worth of eggs will pass through the Candling Station this year. This figure must not be taken as the value of the eggs produced on the Island, as probably 60% of the eggs produced find their way to the market through other channels and it is not too much to say that some of these eggs could almost find their own way about.

The value of eggs produced according to the census for 1911 amounted to $563,426, and this year there has been marketed co-operatively eggs to the value of $250,000 produced by 3,500 farm flocks, less than 25% of the farm flocks of Prince Edward Island.

The co-operative movement has taken a firm hold in Prince Edward Island, and has indirectly benefited non-members as well as members, on account of the loss of this trade to wholesalers. Dealers are out each season in ever increasing numbers to buy up the Island eggs and poultry, and on account of the prices paid by the Co-operative Association, they have had to raise their prices, in order to get the supplies necessary to keep them in the running in this particular business.

This fall the Association is buying live chicken and fowl, paying a flat price for it on receipt, and after killing, dressing and marketing, and deducting the price of handling, returning a balance to the producer. In the

(Continued on page 188)

Gombault's Caustic Balsam

The Worlds Greatest and Surest
Veterinary Remedy
HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Firing. Invaluable as a CURE for
FOUNDER,
WIND PUFFS,
THRUSH,
DIPHTHERIA,
SKIN DISEASES,
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PINK EYE,
SWEENY,
BONY TUMORS,
LAMENESS FROM SPAVIN,
QUARTER CRACKS,
SCRATCHES,
POLL EVIL,
PARASITES.
REMOVES
BUNCHES or BLEMISHES,
SPLINTS,
CAPPED HOCK,
STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINANY REMEDY
Always Reliable. Sure in Results.

None genuine without the signature of The Lawrence-Williams Co.
Sole Importers & Proprietors for the U.S. & CANADAS. CLEVELAND, O.

Finds Caustic Balsam to be Reliable.
I can say that I have for the past three years been a user of GOMBAULT'S CAUSTIC BALSAM, and have found it to be all that is claimed for it, and have in a great many instances recommended its use to others.—R. D. KIRK, Antigonish, N.S.

Canadians Appreciate Caustic Balsam
I have been selling GOMBAULTS CAUSTIC BALSAM for years, and it is giving my customers the best of satisfaction. I have also used it myself on different ailments with the best results. Too much cannot be said in its favor.—W. T. PRICE, Berkeley, Ont.

Sole Agents for the United States and Canada.
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TORONTO, ONT. CLEVELAND, OHIO.

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APPEARANCE, attitude, loss of appetite, dull eyes, rough coat—all these indicate the need for

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25-lb pail, $3.50; also 50c. and $1.00 pkgs. At your Dealer's.

Mixed with good digestible feed, "Pratts" will quickly put them in condition, and make them give more and richer milk. Try it at our risk.

Money Back if Not Satisfied.

PRATTS Disinfectant keeps your stable free from lice and other insects. Kills disease germs and keeps the quarters sanitary. Use it as a dip for ticks, scab, foot rot, and other diseases.

Prices, 50c. qt. $1.50 gal. At your Dealer's

PRATTS Healing Ointment heals quickly and naturally. Leaves no dangerous scabs. Fine for family use. In 25c and 50c boxes.

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FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

MRS. SPARROW'S RIVAL

A Good Object Lesson Story for Jealous Wives

By Emma Gary Wallace

"I suppose," complained little Mrs. Sparrow in her peculiar piping voice, "that men will go right on chasing pretty faces and pleasing manners to the end of time, while we women who stay home and dig and work need not expect so much as a 'thank you.' Why, only yesterday when I reminded Sam that I had baked four-hundred-and-five pies, nine-hundred-and-eleven cookies, three-hundred-and-fifty loaves of bread, twenty-eight layer cakes, ninety-seven sponge cakes, and had pared and boiled twenty-seven bushels of potatoes, and fried and roasted and stewed nearly three-hundred pounds of meat, all in the last year, he just grunted and then said that I ought to be mighty glad he was such a good pervider!"

Mrs. Sparrow's beady, black eyes snapped with indignation at the lack of appreciation of her liege lord. Her hair was drawn tightly back and twisted into a hard knot; her scant, calico dress showed the angles of her small, spare frame; and the expression of her sallow face was one of discontent.

"I might as well tell you, first as last," Mrs. Sparrow continued, addressing her sister, Maria Smithers, who had come to spend a couple of weeks with her, "that Sam is making a regular fool of himself around this schoolteacher boarder of ours. He talks and laughs with her every meal, and acts just as though he was tickled to death to have her around."

Maria raised her eyebrows and pursed her lips.

"She's a good looker all right," she agreed. "I do think her hair is the yellowest, her eyes the bluest, and her skin the whitest and pinkest I ever saw, and she can tell stories in a way to make anybody laugh."

"I know it," Mrs. Sparrow chirped, "and Sam seems delighted to hear her. I don't think I'll take a boarder after this term. There's no fool like an old fool, you know."

Maria Smithers was a widow in comfortable circumstances. She was fair, fat, and forty—a different type altogether from her sister, whom she now looked at critically.

"Don't believe I'd send her somewhere else, fi I were in your place, Salina," she warned. "Better let her be where she is so you can keep your eye on the both of them. And say, what's the matter with prinking up a little yourself? You used to be a pretty good-looking girl when Sam first took a shine to you. Lately you have stuck so close to the farm and the farm work that you're not half as interestin' as you might be—sort of weazened and dull-like, you know."

Salina Sparrow fairly fluttered with excitement.

"What time have I to prink up," she sputtered, "with all these hands to cook for?"

"That's very true," Maria agreed, "but Sam has urged you again and again to have a hired girl. Why don't you do it I don't believe Sam cares a thing about that schoolteacher, except that she's good company. Be good company yourself, and don't let her cut you out with Sam. It's perfectly natural he should like good company. I do myself, don't you?"

Salina perched on the edge of a high stool which stood by the kitchen sink, and looked at her sister thoughtfully.

"Hired girls are likely to be awful wasteful and extravagant," she mourned.

"Not necessarily," Maria defended. "You'll be right here to see to things and to do the plannin'. Tell you what, if I were in your place, I would comb my hair a little dicerent for one thing. That wouldn't take any time, or cost you a cent! Make it loose and fluffy around your face. This afternoon I'll give it a shampoo, and we'll dry it out in the open air, and I'll fix it pretty, just as you used to wear it. Why, it was real curly when you were a girl. It would hang in ringlets now, if you would give it a chance. No need of slickin' it back till you look like a skinned cat, as I can see.

"I don't like to hurt your feelin's, Salina, but those work dresses of yours are the ugliest things I ever did see! Why couldn't you have two or three becomingly full and of pretty color? Those are drab and streaky and make you look like you'd lost your last friend.

"Lately you've been as yellow as a duck's foot, just because you eat so much fried stuff and don't pay any attention to your liver. Why don't you get after yourself, drink plenty of fresh water, and get Sam to sleeping with wide-open windows? And talk about shoes! Those things you wear are neither beautiful nor comfortable. Why don't you have a pair of house slippers and a heavy pair of elastic-sided, loose shoes to slip into when you go out to feed the chickens? Land sakes alive, you ought to hear yourself clump around in those "

Salina gasped and her eyes opened wide, but undismayed her sister continued:

"Then, you say that teacher's conversation interests Sam. Honest, now, can you wonder? She talks about the war and woman's suffrage, and the next presidential election, and tells funny stories just when they seem to fit in. Why, the other night she was over to Mrs. Allen's to supper when I was there, and we clean forgot to pick up the dishes and wash them, listening to her telling about the Aztecs. I never knew much about them, and I tell you they were a great people.

"Now, if you had a hired girl, you could read some, and it would be a heap sight more interesting to Sam to have you able to talk with him about what's goin' on in the world, than to number the bites of pie and meat and potato he puts into his mouth, and to keep holdin' before him what an abused creature you are. It isn't cheerful to hear

"Be more of a companion and partner and be attractive to the eye, Salina, and Sam would never think of lookin' at the handsomest girl in the world. Why, he picked you out because he wanted you. He admires the teacher just as he would a beautiful rose, or a good, fat, yearling calf, but when it comes right down to brass tacks, it's 'Ma' he calls for every time he comes into this house, and the prettiest girl in the world couldn't take your place.

"Just the same, you're missin' half of the pleasure of life, just because you are too serious-minded. It's all right, Salina, to be thrifty and to have a competence for old age, but why not have some fun as you go along now? Sam's been wantin' to get an automobile, and you've fairly pecked his eyes out every time he mentioned it. Why not? You sure can afford it!"

Salina Sparrow hopped off the edge of the stool and took down the little square mirror from back of the sink. She went over to the window by the dining room door and looked at herself critically, turning her head first on one side and then on the other. Then she turned resolutely to her sister.

"My front teeth need filling, all right," she ejaculated, "and I guess it wouldn't hurt my skin to have some of that lotion that always used to take the redness out of it. Perhaps I have neglected myself a little bit. Suppose, Maria, you help me fix up. We'll take old Dolly and drive to town this afternoon, and perhaps you can kind of appear to coax me around on the automobile question. It's just as you say, we might as well take some comfort as we go along, now we are able to afford it. P'raps it wouldn't be such an expense, for Sam could use it a lot."

Maria Smithers eyed her sister's spare back and shoulders approvingly, as she reached to hang the mirror up again, and when Salina Sparrow turned around her sister brought a flush of pleasure to her face by saying:

"All right, Salina, I'll make you look ten years younger, and Sam'll be tickled to pieces. You've got the good, sound sense I always knew you had! I know right where you can get a first-class girl to help you, and she won't charge great big wages either! And we'll study this schoolteacher rival of ours, and where she can give us beauty hints, we'll take 'em, Salina. Sure we will! She isn't to blame because she's pretty, and we've no reason to spite her for it.

"What do you say to housedresses of blue and white, or lavender and white, with aprons of the same goods, and comfortable, pretty kid slippers with buckles? And afternoon dresses of dimity and lawn, and a thin silk shirtwaist suit, and long motor coat and cap and veil?"

"Oh, Maria, but that'll cost a lot," protested Salina, her cheeks pink with pleasure, in spite of herself.

"And white aprons with frilly edges, and some pretty lack neck things, and a wrist watch, and—"

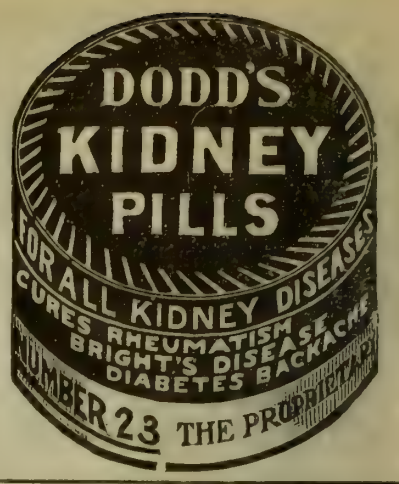
"Oh, not a wrist watch, Maria. There's Grandfather Brown's big silver watch—it'll do well enough."

"The teacher has a wrist watch Salina," her sister returned severely. "Sam approves of her. Why shouldn't you have a wrist watch? Think of his new silo and motor tractor and gasoline engine. 'Course you'll have a wrist watch!

"And I haven't heard you sing in ages, nor play. Why, the teacher's give her eyes if she could sing like a bird, as you can. Wake up, Salina! Which'll cost more—to let Sam get to thinkin' you're a machine to stamp out cookies and fry meat or to spend a few little, old dollars and be the queen bee of this home? Take your choice!"

Salina Sparrow broke into a happy, little laugh. It had the trill in it of earlier days. The complaining note of self-pity was gone.

"Sam's all right," she declared. "I reckon I've been sort of stupid, because I keep my eyes on the ground so much, lookin' for worms. Guess I'll have my shirtwaist suit of blue foulard with old rose figures, an' long sleeves, because my arms are so skinny. A wrist watch'll look good with a rig like that!"



HOW ORGANIZATION HAS SAVED BELGIUM

Canadian Officer Expresses Admiration for Belgian Relief Work

New York, Dec. —"The most wonderful thing about this war is the organizations it has developed," said a Canadian officer, on his arrival here to-day, "and the most wonderful, or at least one of the most wonderful, of these organizations is the Belgian Relief Committee."

This officer, who in private life is a prominent business man, has spent a great deal of time on the Belgian front and while engaged in work with the Canadian Army Service Corps had excellent opportunity to study the methods by which seven millions of destitute Belgians are being kept from starvation through the relief work.

"Our own system is about as good as they make them," he said, "but then we have the Government behind us and the Government has got to look after the "Tommies." But here are these people, with only their own energy and the loyalty of their contributors to depend on, carrying out a gigantic task with an efficiency and a cheerfulness that would put to shame the average business organization.

"Why do you know that they have got practically every one of these seven millions of people card-indexed? Well, they have, and they know just who is entitled to food and to how much each is entitled. And each person gets just that much, no more, no less. Believe me, there isn't enough wastage in the whole territory that organization covers to make a tin of cleansing powder!

"When I was last in Montreal I was frankly skeptical about what the peo-

BETTER THAN SPANKING

Spanking does not cure children of bedwetting. There is a constitutional cause for this trouble. Mrs. M. Summers, Box W. 309, Windsor, Ont., will send free to any mother her successful home treatment, with full instructions. Send no money but write her to-day if your children trouble you in this way. Don't blame the child, the chances are it can't help it. This treatment also cures adults and aged people troubled with urine difficulties by day or night.

Influenza

Nothing I know of will give such prompt relief from this disease as Chamberlain's Cough Remedy. The pain in the chest disappears, the fever goes down, and the whole body feels better. After effects of the disease can also be avoided by taking

Chamberlain's Cough Remedy

I have never known a single case of influenza to result in pneumonia when Chamberlain's was freely given, and the cough following influenza speedily yields to this splendid remedy.

Yours for health,

—Granny Chamberlain.

32

Flattering to the Original

But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.

This is a facsimile of the package bearing portrait and signature of A. W. Chase, M.D.

TAKE NOTICE

We publish simple, straight testimonials, not press agents' interviews, from well-known people.

From all over America they testify to the merits of MINARD'S LINIMENT, the best of Household Remedies.

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PILES CURED at HOME by NEW Absorption Method

If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers, Box P. 309 Windsor, Ont.

"TITE WAD"
"STICKS LIKE A BULL-DOG"

THE ORIGINAL RUBBER PUTTY

Vulcanizes Without Heat.
Heat Does Not Affect It.

Don,t throw away old tires, rubber boots, raincoats or hot water bottles,—buy a tin of Tite Wad—postpaid to any part of Canada. Put up in 3 sizes; 50c, $1.00 and $1.50. Guaranteed to do what we say or money refunded. Address mail orders: EDWIN SCHOFIELD, 24-26 Dalhousie St., Toronto, Ont. Montreal Branch: 26 Victoria Sq. Stock carried by SUMMER COMPANY, Moncton, N. B.

"I earn $2 a day at home"

You may say that, too—if you want more income. Easy to learn. Steady work at home *the year round.* Write Auto-Knitter Hosiery (Canada) Co., Ltd. Dept. 306 F 257 College St., Toronto.

ple at the Belgian Relief Committee office at 59 St. Peter stre t told me they could do with a bag of flour. They said a bag of flour would feed one of the war sufferers for a month. Frankly, I didn't believe it, considering the cost of getting it there and the difficulty of turning it into food. But now I know they can do t. I've seen it done. Do you know what they do? They simply put the men to work making the flour into bread to feed their own families.

"But they tell me that with the Germans carrying off the Belgian men the way they're doing now, the job is going to be all the harder and there's going to be all the more need of help. Well, believe me, anyone who wants his Christmas money to go where it will do the most good had better send it to the Belgian Relief Committee."

WARM SCHOOL LUNCHES

Beulah S. Oxton

Last winter I read with much interest an article in your department concerning ways of furnishing warm dinners to school children who cannot go home for the midday meal. Having been a teacher for some years, and having spent part of that time in the rural schools, I appreciated the valuable suggestions in the article referred to.

In my own schools I very often found pupils who came long distances to school, and who were unable to eat much nourishing food for breakfast, due to the early hour at which they left home and also the excitement and nervousness attendant upon the hurry and bustle of getting off. When they reached the schoolhouse they were tired and hungry and in no condition to begin study. In that case they often ate a large part of their dinners either before school began or at recess, so when dinner time arrived they had little in their lunch boxes to sustain them for the afternoon and the long walk back home at night.

In such cases I tried to have a cup of hot milk or cocoa ready for them to drink upon arriving at school in the morning and the same at noon.

I always carried with me as part of my school outfit a one-wick small oil stove, a granite iron saucepan with handle and cover and a copper teakettle; a granite iron (white) cup and plate, large and small spoon, knife and fork. These all fitted snugly in a wooden box with slide cover. Another small box contained a can of condensed milk, can of cocoa, and a jar of beef extract, together with an assortment of crackers and fancy cookies, some wax paper and paper napkins.

On cold, stormy or busy days I could prepare in less than 10 minutes a cup of hot soup with crackers and a cup of cocoa with a dainty fig bar or cooky. For variety I took a fresh egg from my boarding place and boiled it, or a bit of steak which I cooked in my covered saucepan. Salt and pepper in envelopes I kept in a desk drawer to be used when needed.

The soiled dishes were immediately rinsed with cold water and then boiling water and dried in the air or upon a paper napkin. Thus in an hour's nooning I had cooked and eaten dinner, washed the dishes, and had at least half the time left for work or rest. Besides, I was not bothered by carrying a lunch box back and forth, and kept my health in good condition by eating a warm midday meal in the quiet of the schoolroom, or, if in summer, under the shade of a tree.

Now it seems to me that some such plan could be carried out for the pupils as well as the teacher. Some older pupil could make the soup and cocoa for all the others. A can of condensed milk and one of cocoa would last several pupils several weeks. The need to bring milk and sugar would be obviated, and much time and trouble saved. Concentrated soup can now be obtained in powdered form or in capsules that are soluble in hot water, which, with cracker added, forms a most nourishing meal.

There was once an old lady living near a rural school who was interested in the children, and upon cold days she often invited them to bring their lunch boxes into her warm kitchen and eat their dinner there. She put their bread and butter in the oven and toasted it, made them something warm to drink, and often gave them a "tidbit" in the form of jelly, cookies, preserves, fruit, cold headcheese, and many other dainties. While this old lady out of her kind heart and open hand did this for the children, under other circumstances she could have been hired by the parents to do the same for a small sum each week, which, divided among several families, would have been but a mere trifle.

There are many, many ways to keep the children well and happy and interested in school work. The parents and teachers should more often plan and work together, and in most places this can be done if the teacher is wise enough to see the need, grasp the opportunities and take the initiative.

Two other things I have found of great help in school: Window boards of various sizes to slip in the space under a raised window, thus giving fresh air up between the sashes without direct draft upon pupils; the other—dustcloths slightly dampened with kerosene will keep the boards clean and black and prevent dust.

PEERLESS Long Span Gates

are so rigid—so strong ... thoroughly and ... even after years of service ... retain their original ... It properly hung, there will be no dragging on the ground ... no necessity for ... to lift or carry the gate open or shut. It will always swing easily and always ... closing.

Made of Best Materials

Frame work of ... steel tubing electrically welded together. ... gates are all filled with ... 9 Open Hearth galvanized steel wire—... durability—weather proof and stock proof. ... free catalog. ... our farm and poultry fencing, also our ornamental fence and ...

Agents nearly everywhere. Agents wanted in open territory.

THE BANWELL-HOXIE WIRE FENCE COMPANY, Limited
Winnipeg, Man. Hamilton, Ont.

COMMON COLDS

Knowing how frequently the common cold is followed by serious consequences, it must be regarded as a serious disease.

Tuberculosis, pneumonia, and influenza cause many deaths, and in most instances they begin with a common cold. It may, therefore, be said that a cold is the first stage of a tuberculosis, a pneumonia or an influenza—not simply because that group of symptoms known as a cold usually precedes them, but because of the fact that 75 per cent or more of common colds are infections with the specific germs of pneumonia, or influenza, or both—not so commonly tuberculosis, though the way is most beautifully paved for it and it frequently follows promptly.

Consumption, in the majority of instances, is but the terminal stage of what was once "only a cold."

Colds are largely preventable and being so, the preventive measures cannot be too strongly emphasized, or too oft repeated, until we not only learn them well, but practice according to our knowledge.

First and foremost in avoiding colds comes physical resistance. Some are richly endowed with this by nature, others must develop it. This is best done by simply following the well-known rules of hygiene and sanitation, which will not only serve to protect us against colds but all diseases.

Get plenty of fresh air—when you cannot go out into it let it come in to you.

Drink liberally of pure water.

Get sufficient sleep, and be regular about the hours. Wear a sleeping cap in cold weather.

Take exercise, avoiding the strenuous kinds. And if you can walk, don't try to find any better kind. You need not confine yourself to this form, but don't overlook the value of it.

Eat good food, remembering that it is very easy and detrimental to overeat. Eat anything you like—unless you know it doesn't agree with you, but sparingly of meat and eggs, which predispose to colds and other ills. Practice frequent bathing, especially the daily cold water kind—either tub, sponge, or shower—followed by a vigorous rubbing with a coarse towel. The bath is of much more value if taken in the morning.

Wear comfortable clothing, but unless your work is out of doors, avoid heavy underwear. Secure the extra protection necessary in cold weather with outer garments, which can be easily removed when inside. Don't start the muffler habit next winter.

Never wear thin soled shoes, they are always tiresome and dangerous.

Abstain from alcohol—there is nothing more destructive to your defences.

Avoid fatigue if possible, as your resistance is materially lowered, when the body is overtired.

Public gatherings are a prolific source of infection. Movie fans should attend the first show—the air is better. Your risk is further lessened if you keep your mouth closed. Look and listen, but do not talk. Breathe through the nose, and after returning home spray the nose and throat with some antiseptic solution. During the season when artificial heat is necessary, maintain the moisture in your rooms by evaporating water. Completely change the air several time daily.

Properly care for the teeth.

Be careful in using public phones. Avoid a contact of your lips with the transmitter.

And so we might go on indefinitely with what to do and what not to do. Simply learn all you can of what tends to preserve and promote health, and what tends to destroy it. Then form healthful habits and your reward is certain. In the event that you get a bad cold, you cannot do better than to give your attention to getting rid of it—in the shortest possible time—for the longer a cold hangs on the greater its tendency to become chronic

—or to be followed by complications.

A bad cold is a disease demanding home care and treatment. Don't try to work it off—for in so doing you are using in your activity the energy which should be used to combat the infection, and aiding in your own defeat. Begin treatment by thoroughly cleansing the bowels with a saline cathartic, such as Epsom salts.

Take a hot bath of about ten or fifteen minutes duration, and before concluding it gradually reduce the temperature of the water to that of the body. Drink all the hot water you can and go to bed. You will do better without food for the first twenty-four hours. However, if you feel that to be too much of a hardship you may have a liquid diet, and three or four times daily take about one-third of a teaspoonful of baking soda.

Continue along these lines, drinking liberally of water, until the acute symptoms which characterize the onset of the trouble have subsided, and then gradually resume your regular habits.

Should unusual symptoms follow, or should you not respond promptly to the treatment outlined above, call a physician.

WASHABLE THINGS

For very little children who are apt to put everything they handle in their mouths, playthings should be selected that can be washed easily. Many people think the best playthings are those that cost a great deal of money, but in reality the best ones are made at home and cost next to nothing.

A clothespin dressed in long clothes for a doll will delight a baby and the whole thing can be washed and boiled on wash day. Small wooden boxes of various sizes are always liked by babies for building all sorts of houses and these can also be washed. One of the best things a lively baby ever had to play with was a box in which prepared food had come—a round box that would roll. The mother peeled all the bright paper from it and the baby played for hours with the toy that would slip from his grasp and roll away. When soiled it was wiped off and the baby started after it again.

In things that are bought rubber toys are lasting and washable and so are many of the wooden ones. A bright bell made of metal costs little and can be washed without trouble. Iron toys are hardly to be recommended for very little children as they are apt to hurt themselves with them, but when they are old enough to handle them with care the toys are easily cleaned.

Wooden blocks that are not highly painted are good playthings for children if not too heavy. Large glass marbles to roll after the little ones know enough not to throw them and hard rubber balls are alike useful. It is fine exercise to roll a ball and run after it, but the balls get dirty speedily and must be washed. Small baskets to carry things in will please the baby and they are easily washed. A little basket that has been scrubbed and dried many times while the baby had his nap is the pet plaything of a sturdy youngster of two years. Berry boxes make hats and toys and houses and many other things for babies, but they should be examined carefully for loose tacks before being turned into playthings.

Spools of all sizes make good toys, a string of spools pleasing the baby better than a rattle bought at the store. On wash day drop the spools in hot suds or boil them after the clothes are finished and they come out clean and white. Wooden harness rings free from paint and metal rings not painted are liked by little children. In fact, there are enough things thrown away in every farmhouse to furnish playthings for a dozen babies, and things that can be washed, too. A plaything that can't stand a bath is not fit for a baby no matter what it cost. It is impossible to keep everything perfectly clean all the time, but occasionally the baby's toys should be dumped into some clean hot suds so that they will not become filthy.—Alice Brown.

BOY'S SUIT.

By Anabel Worthington.

Very much in style this season is the Russian suit for a small boy. This type of suit has been well tried out and proves to be the most favored.

Your boy can go anywhere if decked out in a suit like the one in the picture. The blouse is made with a plait n each half of the back and the plaited section is joined to a yoke, giving a very pretty line across the shoulders. At front, a backward turning tuck is made at the left side, where the blouse fastens, as suggested by the button decoration; a similar row of buttons at the opposite side cleverly introduces the much loved double breasted effect.

The collar is detachable, and the tie, of course, makes the boy quite manly looking. The patch pocket will easily win Tommy or Johnny, but suit yourself about making the bloomer trousers with leg bands or elastics.

Serge, homespun, cheviot and the mixtures are good for this style, and the pattern promises an exact duplicate whether or not you have used a pattern before.

The suit pattern, No. 8,037, cuts in sizes 2, 4 and 6. To make in size 4 requires 2⅝ yards 36 inch material, with ⅜ yard contrasting goods.

APPRECIATING CHILDREN

To appreciate a child, it is necessary to understand it, yet many a parent fails to make a discriminating study of the characteristics of his child. The baby's actions, which speak louder than any words, and which would be of priceless value to the observant parent, are passed carelessly by. His sudden tempers are laughed at, his inquisitiveness is a joke, his affectionate ways are sweet, and his saucy airs are cunning, and that is all many parents think about them.

Now, a child, even a little one, instinctively feels when it is misunderstood, and sometimes children who have the finest qualities, shrink within themselves and show only a disagreeable and indifferent exterior, because they know that they are not appreciated. Appreciation is the very sunshine of the soul; it is when we feel that we are appreciated that we put forth our best efforts. It is only a rarely heroic soul who will fight on with the same valor when he knows that it is misunderstood, and that his best efforts are greeted only by a careless smile.

One might as well expect a child's body to thrive in a darkened room as to expect its soul to expand without loving appreciation. Appreciation means room to grow, unhindered and unretarded. It does not mean flattery, which would ruin the sweetest childnature ever made, though a well deserved word of praise will spur one to fresh endeavor, and it is as natural as breathing for a child to seek it.

'That is right', 'Well done.' 'Mamma was watching.' 'I saw how hard you tried.' It is surprising what a good effect such kindly and cordial phrases will have.

Never laugh at a child's aspirations. 'Tommy expects to be Prime Minister,'' or 'Bessie has decided to become a poet,'' you announce at the tea-table, and the statement is received with shouts of laughter; it seems so absurd that such round-cheeked, chubby little morsels should cherish such heroic dreams. But they are right, and you are wrong. It is impossible to set the goal too high, and it was a cruel shame for you to make that shy confidence which was breathed into your ear a subject of ridicule. And what the child suffered of mortification and confusion at your hands you do not even dream.

And when your little man or maid bestows upon you some trifling present—the photograph frame, clumsily carved maybe—or the handkerchief hemmed with grimy little stitches, look beyond the poverty of the gift to the motive which inspired it, and hold the trifling thing as precious in your sight.

If you surround your child by such an atmosphere you may be sure that every noble and lovely trait in his nature will have a chance to grow. And when he reaches maturity your loving patience will have its full reward.—Helping Words.

EDUCATING THE CHILD

A summary of a number of simple home means of education for children:

Hearing good stories at home.

Telling stories.

Dramatizing stories.

Keeping a diary.

Conducting a correspondence with a child friend or a loved member of the family.

Keeping a grocery, market and laundry list.

Labeling garden plots, seeds and home food supplies, such as jams, jellies and preserves.

Playing such games as "Anagrams," "Spelling match," "Quotations," "Authors" and "Word Building."

Keping a card file of picture post cards, noting interesting facts about each.

Reading the classics under home supervision.

Using the children's room of the local library intelligently.

Physiology and Hygiene Experiences

Caring for the body hygienically, bathing, brushing the teeth, manicuring the nails, and disinfecting eyes, ears, nose and throat.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

LADY'S SHIRT WAIST.

By Anabel Worthington

According to the season's latest, No. 8,083, fashion still favors the practical mode in blouses. This is a really smart and serviceable design which the wearer proclaims is for "strictly business."

The model is on severely plain lines, has the front closing that may extend to the chin with the aid of a high turnover collar—if the open neck is preferred the collar is rolled as illustrated. The sleeve with plenty of fulness below the elbow is gathered into a fascinating cuff that finishes with a frill of the material. To give dash, the athletic girl will add the tie and it will be very becoming below the collar in opposing color.

If to match a suit this waist should properly be in the color of the suit material—for instance, if blue serge formed the skirt the waist would be of blue taffeta with a collar of sheer handkerchief linen. It may also be made of Georgette crêpe, plaid silk, cotton poplin, white linen, &c.

It is no secret that an amateur can reproduce the design without a bit of trouble—the result is well worth the effort it takes.

The waist pattern, No. 8,083, cuts in sizes 36 to 42. To make in size 36 requires 2¼ yards of 36 inch material and ¼ yard of 22 inch contrasting goods.

To obtain the pattern send to the office of this publication.

Learning to escape contagion through avoiding common drinking cups, handling car straps or stair railings of public buildings, indiscriminate kissing and touching the soiled clothing or hands of playmates.

Learning to like simple foods because of their nutrition.

Taking part in the cleaning of the home through keeping the playroom and playthings, as far as possible, sanitary.

Helping to bathe and dress a baby brother or sister.

Caring for pets of all kinds.

Science Experiences

Making and studying collections of stones, rocks, ores, deserted birds' nests, flowers, textiles, woods and shells.

Modeling physical maps in damp sand or plasticine.

Putting together cut-out geographical maps.

Playing card games of illustrated birds, flowers and trees.

Keeping a weather record or making an illustrated weather chart.

Studying the chemical reactions involved in simply home cooking.

Making toys that illustrate scientific facts; weather vanes, barometers, electric toys, water wheels and kites.

From the Mother's Magazine.

THE CARE OF LINOLEUM

Linoleum is made of linseed oil, rosin, ground cork, with mineral colouring matters. In cleansing and renovating linoleum, the ingredients should be taken into account. Therefore, linoleum should not be washed with soap, soda, or other alkaline cleansing agent. Neither should hot water be used on it. To clean linoleum properly, sweep it first gently, then wipe up with a damp cloth. The surface should be treated every two or three months with some good floor wax, well rubbed in. A solution that may be used to preserve and renovate linoleum is the following:—Dissolve two and a half pounds paraffin in one gallon of oil of turpentine, using gentle heat; apply while warm with a piece of flannel; let remain on the linoleum about twenty-four hours, then polish with flannel. New linoleum should be warmed before unrolling or bending, as it cracks very easily when cold. Furniture should not be rolled or skidded over linoleum, but lifted and carried. Small blocks or wood or scraps of linoleum placed under furniture casters prevent unsightly denting. The greatest amount of wear on linoleum comes naturally, from walking over it. Plain linoleum shows such wear much less than figured, which often becomes unsightly from "paths" and worn patches. This is especially true of the cheaper linoleums. When properly laid and cared for, however, the very best inlaid linoleums are quite satisfactory, and are the cheapest in the long run.—C. E. Vail, Colorado Agricultural College.

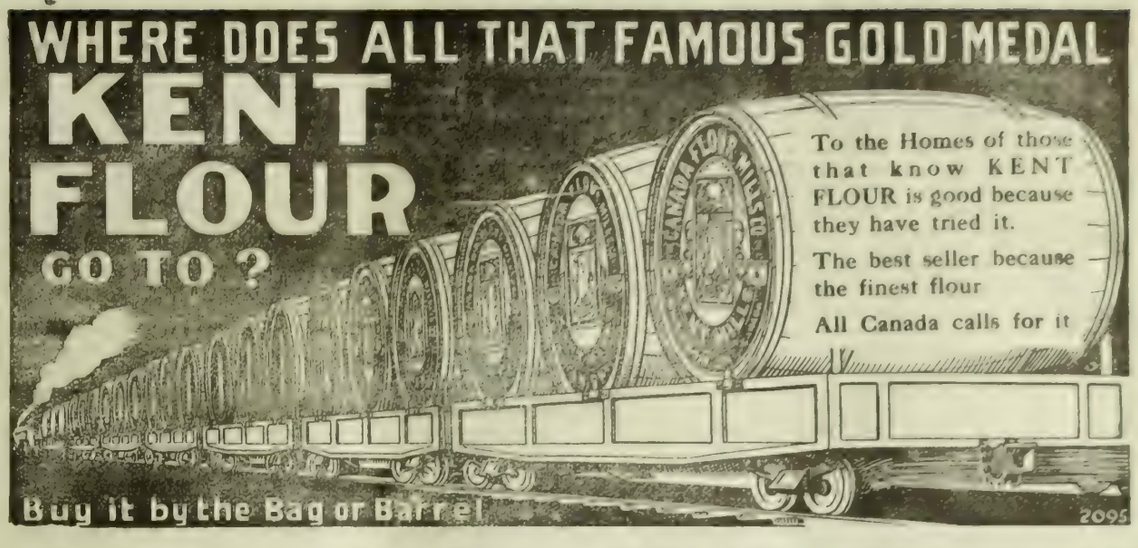
SQUIBS FROM A FARM WIFE'S NOTE BOOK

Never wring or twist silk after washing. Squeeze gently and roll up in a turkish towel. This will absorb the surplus moisture and leave the silk just right for ironing in an hour or two.

Nothing, probablf, is more healthful than the tomato, with its just-right acid, and there are so many ways of serving, both fresh and cooked, plain and in combination, that no one need tire of it.

There are wearisome hours these long summer days, but keeping the heart young is the best cosmetic for keeping the face young.

The best way to cream butter and sugar for a cake is to use the potato masher. In cool weather warm the butter (but do not melt it) and the mixing bowl.


WHERE DOES ALL THAT FAMOUS GOLD MEDAL
KENT
FLOUR
GO TO ?
To the Homes of those that know KENT FLOUR is good because they have tried it.
The best seller because the finest flour
All Canada calls for it
Buy it by the Bag or Barrel
2095

There are so many pretensions all about that plain, simple honesty is in contrast, particularly attractive.

This is the day of efficiency. The best butter, poultry, fruit, eggs and vegetables are what bring the top prices and guarantee the future market. It takes thought and care to provide these, but from all standpoints, it pays.

A film of butter spread over the cut surface of cheese that is to be put away, will prevent the drying and cracking that spoils its appearance.

There is no grain better than wheat for chickens. If they can have the run of the stubble field after threshing they will thrive at no extra cost. If this is not practicable, wheat should be fed them and charged up to their cost.

Promptness, dependability and attention to detail are the foundation of successful business and life, and they are best learned at home. In fact, the whole adult life will suffer if these habits are not well grounded in childhood.

In traveling, do not pack a bulky towel and washcloth with your toilet articles, to be carried there damp and soiled after using. Instead, cut five or ten cents worth of cheesecloth (depending on the length of your journey) into twelve inch squares, tuck them in corners of your suitcase (where they will take up no extra room) and have fresh, inexpensive towels and washcloth each time.

Keep a jar of beef extract on hand to help out the emergency dinner if the soup or sauce lacks flavor.

Make inexpensive covered buttons by covering cheap, four-holed buttons with the desired material.

Soggy fruit pies are an abomination. Lower crusts that are brushed over with white of egg (unbeaten) will not be soggy. A thin layer of finely grated bread crumbs is also good for taking up surplus moisture and will not be noticed in the baked pie.

It is foolish to be bothered with starch sticking to the irons when a little borax, soapy water, or some oily substance used in the making will prevent it.

Put the peaches you want to peel in a drainer or colander, dip in a kettle of boiling water then into cold and the skins will slip off easily and without waste.

When brass knobs on bedsteads become tarnished remove them and boil up in vinegar. Polish with a soft cloth.

Remove sewing machine oil from garments by wetting with turpentine, then washing with cold water and a mild, pure soap.—Mrs. F. A. N.

You are often missing the best fishing while travelling to another place.

Some men ask for advice in conducting their business for the sole purpose of having someone to blame if things go wrong.—Fame.

Silage has very much the same effect upon the cow's digestive apparatus as pasture grass.

* * *

There is a great need for the saving of more high class heifer calves on the farm. Good farmers cannot agord to let these youngsters go for veal or be killed for any reason.

* * *

If your home should catch fire today or tonight, have you a ladder handy to get on the roof? A strong ladder makes it possible to reach fire with little trouble. Always keep one handy.

* * *

Consciously or unconsciously all the labor and management are on a farm directed for the comfort and independence—the happiness of the home. If the machinery of the home runs smoothly and its occupants are contented, then the farm is efficient and prosperous.

* * *

The home water system should have a place on every farm. There is no question that the wife is entitled to a few of the improvements and when you figure up the weight of water that is carried into the house every day, it shows that she is almost a beast of burden. Why not put these conveniences at her disposal every day?

* * *

It's the man who reaches out and stops them who always has things coming his way.—The Show Globe.

Give the "Kiddies" All They Want of

CROWN BRAND CORN PURE SYRUP

It is one of the delicious "good things" that has a real food value.

A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

THE CANADA STARCH CO. LIMITED

MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.

Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

THE PRINCE EDWARD ISLAND EGG & POULTRY SITUATION

(Continued from page 183)

first three weeks of operating over two and a half tons of live poultry was received at the Candling Station.

It might be well here to issue a word of warning to poultrymen of the several provinces assembled here. There is a tndency this year, judging by the heavy deliveries of poultry on the large markets, for farmers and producers generally to deplete their flocks and by rushing a large quantity of birds to market in an unfinished condition, cause the current price to fall much below normal. This is no doubt due to the high price of feed, but even though feed is scarce and high, it would pay farmers well to finish their birds before offering them for sale and spread their deliveries over a longer period.

There have been, too, a large number of pullets noticed in many shipments. This is unfortunate considering the price of eggs, which is today several cents higher than the highest price reached any time during last winter. The very firm prospect for the profitabl marketing of all poultry products points to the necessity of conserving in every possible way all suitable laying and breeding stock.

The poultrymen assembled here will be glad to know that a very decided movement is being made on Prince Edward Island in favor of pure bred stock. They should remember, however, in catering to the trade in this stock that will develop, that a farmer is only going to buy such breeds or varieties as will be useful to him from a utility standpoint. While it is important that pure bred birds should conform to the standard, it is also of paramount importance to the farmer poultryman that these pure bred birds be of an egg laying strain. The farmer has no time to follow up the poultry shows, and at best will attend none but his local fair. It is eggs he is after, and the bird he buys must be able to pay a fair profit in eggs or meat over cost of feed. It is a good thing for the farmer to keep this point in mind and make an effort to breed bred-to-lay stock, that combines utility with the standard points necessary to mark a bird as pure bred. There will be an ever increasing demand from Prince Edward Island farmers for pure bred birds and eggs from pure bred birds, and the natural centres from which these birds will be drawn are New Brunswick and Nova Scotia. If the poultrymen of these two provinces are not sufficiently awake to grasp the opportunity, orders will go to Ontario, and the trade he lost to the Maritime Provinces.

An address by A. F. Heuston, president of the Maritime Poultry Association at their recent Convention in Moncton.

KINGS COUNTY POULTRY SHOW PRIZE LIST

The Kings County, N. S., Poultry Show ended on Friday night and it was recognized by all who attended that it was one of the best poultry shows ever held in the Province. The quality of the birds exhibited was unusually good and over 600 were entered and exhibited. Poultry fanciers considered it far above the average of County Shows. The display of S. C. White Leghorns was particularly fine.

It is regrettable that there were so few in attendance. Every bird fancier should have been there and also the farmers who might have learned much to help them make poultry an important part of the farm productive products.

Here we present the prize list:

Anconas—Cock, 1st, G. Blanchard; Hen, 1st, 2nd, G. Blanchard. Cockerel, 1st, 2nd, G. Blanchard. Pullet, 1st, 2nd, 3rd, G. Blanchard.

Andalusians—Hen, 1st, 2nd, Mrs. Blanchard. Cockerel, 1st, 2nd, Mrs. Blanchard. Pullet, 1st, 2nd, Mrs. Blanchard.

Campine, Golden—Cock, 1st, Mrs. Blanchard. Hen, 1st, 2nd, Mrs. Blanchard. Cockerel, 1st, 2nd, 3rd, Mrs. Blanchard. Pullet, 1st, 2nd, 3rd, Mrs. Blanchard.

Campine, Silver—Hen, 1st, Mrs. Blanchard. 2nd, W. R. Turner. Cockerel, 1st, W. R. Turner; 2nd, Home Industries. Pullet, 1st, Home Industries; 2nd, 3rd, Mrs. Blanchard.

Cochin, Black—Hen, 1st, E. J. Armstrong; Cockerel, 1st, 2nd, E. J. Armstrong. Pullet, 1st, E. J. Armstrong.

Cochin, White—Cock, 1st, E. J. Armstrong; hen, 1st, 2nd, E. J. Armstrong; cockerel, 1st, 2nd, E. J. Armstrong; pullet, 1st, 2nd, E. J. Armstrong.

Cochin, A. O. V.—Pullet, 1st, E. C. Griffin.

Game Cornish—Cockerel, 1st, E. C. Griffin; Pullet 1st, E. C. Griffin.

Hamburgs S. S.—Hen, 1st, Charles Dalton; 2nd, 3rd, G. A. Blanchard. Cockerel, 1st, 2nd, George Lockwood; 3rd, G. A. Blanchard. Pullet, 1st, 3rd, G. A. Blanchard; 2nd, Geo. Lockwood.

Hamburg, A O V—Cockerel, 1st, Charles Dalton. Pullet, 1st, Charles Dalton; 2nd, 3rd, George Lockwood.

Houdans—Cock, 1st, 2nd, Home Industries; 3rd, Frank Stead. Hen, 1st, 2nd, Home Industries; 3rd, 4th, Frank Stead. Pullet, 1st, Frank Stead.

Lakenvelders—Cock, 1st, E. J. Armstrong. Hen, 1st and 2nd, E .J. Armstrong.

Leghorns, White S. C.—Cock, 1st, 3rd, Ernest Craze; 2nd, J. Sutton. Hen, 1st, 2nd, Charles Johnston; 3rd, J. R. Lyons; 4th, Ernest Craze.

Cockerels, 1st, Charles Johnston; 2nd, 5th, Ernest Craze; 3rd, 6th, W. R. Turner; 4th, Evangeline Poultry Yards.

Pullet, 1st, 2nd, Mrs. Stanley Craze; 3rd, 6th, J. Howe Cox; 4th, G. A. Holmes; 5th, W. R. Turner.

Leghorns, White, R. C.—Cockerel, 1st, Thos. Tanner. Pullet, 1st, 2nd, Thos. Tanner.

Leghorns, Brown, S. C.—Cock, 1st. W. Plant; 2nd, G. A. Blanchard. Hen, 1st, 2nd, W. Plant; 3rd, G. A. Blanchard. Cockerel, 1st, G. A. Blanchard; 2nd, W. Plant. Pullet, 1st, 2nd, W. Plant; 3rd, G. A. Blanchard.

Leghorns, Buff, S. C.—Cockerel, 1st, Evangeline Poultry Yards. Pullet, 2nd, Evangeline Poultry Yards.

Leghorns, Black—Cock, 1st, Chas. Dalton. Hen, 1st, Charles Dalton. Cockerel, 1st, 2nd, Chas. Dalton. Pullet, 1st, 2nd, Chas. Dalton.

Minorcas, Black—Cock, 1st, A. A. Rottler; 2nd, Mrs. Blanchard. Hen, 1st, 2nd, 3rd, A. A. Rottler. Cockerel, 1st, 2nd, A. A. Rottler. Pullet, 1st, 2nd, 3rd, 4th, A. A. Rottler.

Langshans—Cock, 1st, A. L. Webster. Hen, 1st, 2nd, A. L. Webster; Cockerel, 1st, Robie Morine; 2nd, A. L. Webster. Pullet, 1st, 2nd, Robie Morine; 3rd, A. L. Webster.

Orpingtons, White—Cock, 1st, D. Hartley. Hen, 1st, 2nd, D. Hartley. Cockerel, 1st, Chas. Dalton. Pullet, 1st, 2nd, 3rd, Chas. Dalton.

Orpingtons, Buff—Cock, 1st, Home Industries. Hen, 1st, Home Industries. Cockerel, 1st, Home Industries; 2nd, Herbert Lyons. Pullet, 1st, 2nd, Home Industries; 3rd, Herbert Lyons.

Orpington, A. O. V.—Hen, 1st, 2nd, 3rd, E. T. Jordan. Cockerel, 1st, E. T. Jordan. Pullet, 1st, E. T. Jordan.

Polish, W. C. B.—Cock, 1st, E. J. Armstrong. Hen, 1st, 2nd, E. J. Armstrong. Cockerel, 1st, 2nd, E. J. Armstrong. Pullet 1st, E. J. Armstrong.

Polish A. O. V.—Cock, 1st, E. J. Armstrong. Hen, 1st, 2nd, E. J. Armstrong. Cockerel, 1st, E. J. Armstrong.

Plymouth Rock—Barred—All to E. T. Jordan except 4th. Pullet, Evangeline Poultry Yards.

Plymouth Rock—White—Hen, 1st, 2nd, Charles Dalton. Cockerel, 1st, Geo. A. Holmes. Pullet, 1st, George A. Holmes.

Plymouth Rock, Buff—Cock, 1st, G. Blanchard. Hen, 1st, 2nd, G. Blanchard; 3rd, W. R. Turner. Cockerel, 1st, W. R. Turner. Pullet, 1st, W. R. Turner; 2nd, 3rd, G. B. Blanchard.

Plymouth Rocks, A. O. V.—Cock, 1st, J. Kerwin. Hen, 1st, 3rd, J. Kerwin; 2nd, Chas. Dalton. Pullet, 1st, 2nd, T. Tanner.

Rhode Island Red S. C.—Cock, 1st, 2nd, E. C. Griffin; 3rd, R. Morine. Hen, 1st, 2nd, E. C. Griffin; 3rd, R. Morine. Cockerel, 1st, R. Morine; 2nd, 3rd, 4th, E. C. Griffin. Pullet, 1st, 2nd, 4th, R. Morine; 3rd, E. C. Griffin.

Rhode Island Reds, R. C.—Cock, 1st, E. C. Griffin. Hen, 1st, E. C. Griffin; 2nd, R. Morine. Cockerel, 1st, E. C. Griffin; 2nd, 3rd, R. Morine. Pullet, 1st, 2nd, 3rd, E. C. Griffin.

Red Caps—Hen, 2nd, 3rd, R. Morine. Pullet, 2nd, R. Morine.

Wyandotte—White—Cock, 1st, E. T. Jordan; 2nd, E. H. Dodge; 3rd, Evangeline Poultry Yards. Hen, 1st, 2nd, E. T. Gordan; 3rd E. H. Dodge. Cockerel, 1st, E. H. Dodge; 2nd, E. T. Jordan; 3rd, Evangeline Poultry Yards. Pullet, 1st, E. H. Dodge; 2nd, E. T. Jordan.

Wyandotte—Buff—Cock, 1st, T. A. Morine. Hen, 1st, T. A. Morine. Cockerel, 1st. T. A. Morine. Cockerel, 1st, 2nd, T. A. Morine. Pullet, 1st, 2nd, T. A. Morine.

Wyandotte—Columbian—Cock, 1st, Home Industries. Hen, 2nd, Home Industries. Cockerel, 1st, Evangeline Poultry Yards. Pullet, 1st, 2nd, Evangeline Poultry Yards.

Wyandotte, A. O. V.—Cock, 1st, Frank Stead; 2nd, Fred Morine. Hen, 1st, 2nd, 3rd, Frank Stead. Cockerel, 1st, F. Morine. Pullet, 1st, 2nd, L. B. Dodge; 3rd, Ivan Wagner; 4th, Frank Stead.

Any Other Variety—Cockerel, 1st, 2nd, E. C. Griffin. Pullet, 1st, E. C. Griffin.

Buttercups—Hen, 1st, 2nd, Mrs. Blanchard. Cockerel. 1st, 3rd, G. Blanchard; 2nd, Mrs. Blanchard. Pullet, 1st, 3rd, Mrs. Blanchard; 2nd, G. Blanchard.

Bantams, Cochin—Cock, 1st, E. C. Griffin. Hen, 1st, E. C. Griffin.

Turkeys, Bronze—Old, Male, 1st, R. Morine; 2nd, F. W. Brady. Young, male, 1st, 2nd, F. W. Brady; 3rd, R. Morine. Female, 1st, 2nd, F. W. Brady.

Turkeys, A. O. V.—Old, female, 1st, R. Morine; 2nd, F. W. Brady; 3rd, J. Howe Cox. Young, female, 1st, E. C. Griffin.

Geese, A. O. V.—Old, male, 1st, E. C. Griffin; 2nd, Frank Stead; 3rd, J. Howe Cox. Female, 1st, E. C. Griffin; 2nd, Frank Stead; 3rd, J. Howe Cox. Young, male, 1st, Frank Stead; 2nd, E. C. Griffin; 3rd, Herbert Lyons. Female, 1st, E. C. Griffin; 2nd, Frank Stead; 3rd, Herbert Lyons.

Ducks, Pekin—Young, male, 1st, R. Morine; 2nd, Home Industries. Female, 1st, R. Morine; 2nd, Home Industries.

Ducks, Runner—Old, male, 1st, Home Industries; 2nd, Charles Sharp. Female, 1st, Home Industries; 2nd, Chas. Sharp. Young, male, 1st, E. C. Griffin; 2nd, Home Industries; 3rd, E. C. Griffin. Female, 1st, Home Industries; 2nd, E. C. Griffin.

Ducks, Rouen—Young, male, 1st, 2nd, Home Industries. Female, 1st, 2nd, Home Industries.

Ducks, A. O. V.—Old, male, 1st, J. Howe Cox. Female, 1st, 2nd, J. Howe Cox.

Pigeons, pair, 1st, 2nd, 3rd, E. T. Jordan.

Breeding Pens—Barred Rocks, 1st, 2nd, E. T. Jordan.

White Wyandottes, 1st, E. H. Dodge.

White Leghorns, 1st, Home Industries; 2nd, J. Howe Cox.

A. O. V. Leghorns, 1st, E. J. Armstrong.

Rhode Island Reds, 1st, R. Morine.

Orpingtons, 1st, N. A. Eaton. A. O. V., 1st, Mrs. R. Tilley; 2nd, A. L. Webster.

Utility—Pair Wyandotte Cockerels, 1st, E. H. Dodge; 2nd, L. B. Dodge. Pullets, 1st, L. B. Dodge.

Pair, Rock, Cockers, 1st, F. Godfrey; Pullets, 1st, F. W. Brady; 2nd, E. C. Griffin; 3rd, F. Godfrey.

Eggs—1 doz. white, shelled, E. Craze.

Special Prizes

Sir F. W. Borden Cup for best display in Mediterranean breeds, G. A. Blanchard.

W. W. Pineo Cup for the best display of Rhode Island Reds, E. C. Griffin.

W. S. Blair Cup for best display of Barred Rocks, E. T. Jordan.

T. P. Calkin Cup for best display of White Wyandottes, E. T. Jordan.

Best male in largest class, Ernest Craze.

Best display of any one variety, E. T. Jordan.

Best female in largest class, Mrs. Stanley Craze.

Show judged by Professor J. P. Landry of Truro.

SISTER: READ MY FREE OFFER.

I am a woman.
I know a woman's trials.
I know her need of sympathy and help.

If you, my sister, are unhappy because of ill-health, and feel unfit for household duties, social pleasures, or daily employment, write and tell me just how you suffer, and ask for my **free** ten days' trial of a **home treatment** suited to your needs; with references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by its use. I want to tell you all about this successful method of home treatment for yourself, my reader, for your daughter, your sister, or your mother. I want to tell you how to cure yourselves at home at trifling cost, and without aid from anyone. Men **cannot** understand women's sufferings; what we women know **from experience**, we know better than any doctor; and thousands have proved there is **hope** even **for the hopeless** in my method of home treatment. **If you** suffer from **pain in the head, back,** or **bowels, feeling of weight** and **dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating or unnatural enlargements, catarrhal conditions, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you** to send to-day for my complete **ten days' treatment** entirely **free and postpaid**, to prove to yourself that these ailments can be easily and surely conquered at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and **when you are cured**, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—**young or old.** To **Mothers** of **Daughters**, I will explain a simple home treatment which speedily and effectually cures green-sickness (chlorosis), irregularities, headaches, and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember **it costs you nothing** to give my method of home treatment a complete ten day's trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. **Is health worth asking for?** Then accept my generous offer, **write for the free treatment** suited to your needs, and I will send it in plain wrapper by return mail. To save time you can cut out this offer, mark the places that tell your feelings, and return to me. **Write and ask for the free treatment to-day**, as you may not see this offer again. Address:

MRS. M. SUMMERS Box 309 WINDSOR, ONTARIO.

Pronounced by him to be one of the best, if not the best county shows in the province.

Attendance very wretched. Marked apathy being shown by everyone except the most enthusiastic poultrymen.

Dominion Government Egg Exhibit at shown under direction of Mr. J. Russell Fee of Ottawa, very instructive.

THE CANADIAN GOVERNMENT RAILWAY SYSTEM CLOSING THE BEST YEAR IN ITS HISTORY

Great Increase in Traffic and Large Surplus Probable—Additions to Rolling Stock and Precautions Against Snow Bockade—Superheating of Locomotives Results in Great Economy in Fuel—Little New Work at Moncton Shops as Capacity Is Taxed by Repairs and Renewals

The people of the Maritime Provinces in general and of Moncton in particular will be pleased to know that the Canadian Government Railway system is closing the best calendar year in its history.

It is generally known that the traffic last year showed a large increase, and the Minister will be able to present to Parliament a statement showing a large surplus, with the prospect of still better things for the current year. Of course the war traffic is abnormal and it may be considered the part of wisdom to devote this surplus to such improvements in the track and additions to the rolling stock as will meet any possible developments of the future. The greatest difficulty for some time past has been in getting locomotives and cars for moving the traffic, but General Manager Gutelius and his staff have been untiring in their efforts to accommodate the patrons of the road. Every locomotive has been worked to its capacity and while there has been some deay to freight there has been no blockade as on any of the Company roads of this Continent.

Perhaps the best test of good management is in the cost of moving traffic, and in this respect the Canadian Government system shows a steady improvement. Every effort has been made to improve the efficiency of the locomotive equipment with the result that there has been a material reduction in the cost of moving trains per ton mile.

In April last the average miles per locomotive on the line increased 57% and the engines in service averaged 3,568 miles each. The average of the train loads has been increased and a great saving in coal effected by superheating of the locomotives. Already 34 locomotives have been super-heated at the Moncton and River du Loup shops, mostly this year and the work will be continued. As super-heating requires new fire-box, new cylinders and partially new frames, it will be seen that it means a lot of work for the shops during the next few years. The Railway shops have been working full capacity throughout the year, as far as labor and materials have been available. Notwithstanding the drain of the war more men are employed in the different branches of the service than ever. 600 men are employed in the Moncton locomotive shops, 260 in the River du Loup locomotive shops and 1200 in the Moncton Car and Locomotive Shops. 135 men are employed in the Moncton Round House, not including firemen and drivers. 173 men have enlisted out of the operating department.

Additions are being made to the locomotive and car equipment of the Government Railways system as fast as the makers can deliver the orders. 55 new freight locomotives have been delivered this year or are in process of delivery, mostly from the Kingston Works. Also 10 modern passenger locmotives, the heaviest and most up-to-date in Canada. These engines are equal in aggregate capacity to at least 90 of the previously recognized standard. Of the freight locomotives 30 are of the Mikado, 10 of the Sante Fe and 15 of the Standard Consolidated type. In showing the wonderful improvement in locomotive equipment it is said the capacity of one of the Santa Fe class is about 4½ times that of the type of locomotives in service in 1888.

There has also been added to the equipment this year a powerful rotary plow in addition to two already in service, for the purpose of guarding against a snow blockade during the approaching winter.

The Moncton shops have been very fully occupied on necessary repair and renewal work but some new tender tanks and all steel baggage cars have been constructed.

Complete figures of the increased traffic and general betterment in conditions on the Government system will of course be submitted to Parliament. In this connection some increases in the gross ton mileage for this year may be noted:

January	56%
February	33%
March	30%
April	56%
May	59%
June	37%
July	22%
August	14%

These increases are over a steady increase last year.

During the year the diversion of the main line out of Moncton has been completed, giving the Intercolonial trains the benefit of the better grade of the Transcontinental. The traffic of the Transcontinental Division from Moncton to Chaudiere Junction is about equal to that of the Sydney to Truro Division of the Intercolonial.

THE MEADOW BROOK SHROPSHIRES

Mr. Andrew MasPherson, Farm Instructor at the Dorchester Penitntiary, has sold his Meadow Brook Farm, Rocklin, Pictou County, N. S., to Messrs. Scott and Walmsley, two young Englishmen, who will specialize on Fruit and vegetable growing. Mr. MacPherson offers his splendid Shropshire flock for sale in this issue of the Maritime Farmer.

This flock was founded in 1895 by importations from some of the best flocks in Canada.

They were first shown in competition in 1897, at the Provincial Exhibition at Halifax, and won a goodly share of the prizes.

Since then they have been exhibited every year, except two, and always sustained the honors of the breed in the keenest competition.

Typical sires of the highest quality have always been used as flock headers. These siees have been bred by such noted Shropshires breeders as Mansel and Williams of England, and Campbell and Miller of Ontario, until at the present time the flock presents all that the most critical judge could desire in Type, Constitution and Quality.

The Shearling and Ram Lambs that are offered for sale each year give our customers a chance to use pure bred sires at the head of their flock that are second to none in Canada, comprising the densely covered fleece with the desired mutton form, that are so eagerly looked for in well bred Shropshires.

Ram Lambs from this flock brought the highest price at the Government sale of Rams at Hawkesbury, C. B., in 1907, in competition with stock from the best breeders in Ontario.

In 1899 "The American Shropshire Association Prize" for best Ram Lamb and four Ewe Lambs was won by lambs from this flock. Nine years later, 1908, at the Pictou County Exhibition, the Meadow Brook flock winnings were as follows:

First for Aged Ram.
First for Shearling Ram.
First for Aged Ewe.
First and Second for Shearling Ewes.
First and Second for Ewe Lambs.
First for pen of one Ram and four Ewes.

Thus winning every First but one in the class for Shropshires.

"Not how many, but how good" has been Mr. McPherson's motto, and his aim to please his customers in quality and price.

STOP YOUR FIRE LOSS "METALLIC" BUILDINGS ARE SAFE

WHY build with inflammable wood when you can get fireproof, weather-proof and lightning proof "Metallic" building materials. They are far cheaper in the end. "Empire" Corrugated Iron Siding is easily and quickly laid and makes a strong, rigid wall. Its light weight makes heavy construction unnecessary.

"Eastlake" Galvanized Shingles, coupled with "Hamilton" Ventilators and "Acheson" Roof Lights make a perfect roof. "Metallic" building materials defy the elements. "Eastlake" roofs laid over thirty years ago are good today.

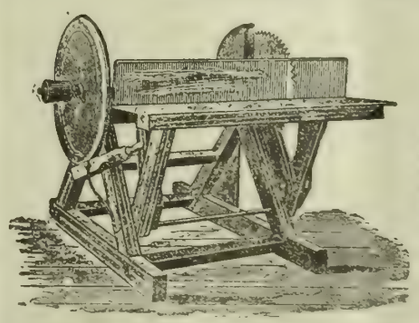
"Metallic built" means fireproof, stormproof, neat and durable construction.

Before buying any building materials write us for Booklet and complete information. We can save you money.

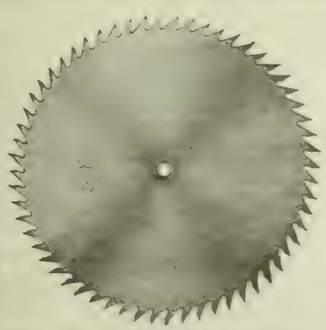
Metallic Roofing Co., Limited
Toronto and Winnipeg

Sussex Wood Cutters Cut Expenses

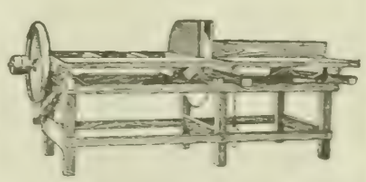
Consult Our Quality Line Before Buying



Short Swing Wood Cutter



Wood Cutter Saws guaranteed at the right price. All sizes. Prompt delivery.



Flat Roller Table.

CONVENIENCE ECONOMY DURABILITY

are the three money-making qualities embodied in our Wood Cutting Machines. No frail parts to give out in a season's use. Built to last a life time. Frame is made of well seasoned birch, bolted and mortised; table of heavy steel plating in one piece.

Swing Table Machines built on skids, bearings supplied with compression greese cups. Especially adapted for use with gasoline engines. Made in four styles—Long Swing, Long Swing Improved, Short Swing, Flat Table.

Ask for our Catalogue and Prices, it will pay you.

Remember we also manufacture Trenholm Gear Hay Presses, Grain Grinders, Root Pulpers, Feed Boilers. etc.

The Sussex Manufacturing Company, Limited, Sussex. N. B.

Annual Convention of the N. S. Dairymen's Ass'n.

Fourth Annual Convention of the Dairymen's Association being the fifth annual gathering of the dairymen, convened at the Agricultural College at Truro, on Wednesday and Thursday, Jan. 3rd and 4th.

The evening session of the Short Course on Wednesday was given over to the Association and a gathering of between two and three hundred people met in the Assembly Hall.

D. W. Murray, the president of the Association, occupied the chair. In the course of his address, Mr. Murray said that by personal observation in his travels, he had come to the conclusion that the best roads were found in dairy districts. In such districts practical methods of road repair were followed. The dairymen were obliged to traverse their roads in all kinds of weather and at every season of the year and were thus able to advise the road makers as to the places in the road needing the most attention.

He advocated the home growing of feed, the elimination of the nondescript cow, and sticking to one breed. He openly declared that there was no place for the dual purpose cow in dairying and considered that it was simply waste of time to bother with her. The creamery managers could do a great deal of useful work in their respective communities by keeping records of the progress that is being made in their patrons respective herds.

W. A. MacKay, Dairy Superintendent, then gave his annual report of the work done during the year. Most of his attention had been directed on the creameries, as cheese factories are not very popular in Nova Scotia.

21 creameries were in operation in Nova Scotia during the season 1916, an increase of one. The registration of cheese factories and creameries has been effected and factories not coming up to certain requirements in equipment and sanitation cannot be registered.

Cream grading has also been introduced and some of the creamery men are doing splendidly under the new system. At least $25,000 have been spent in the improvement of creameries and their equipment during the past year. The Pictou County Creamery Co., Stellarton, have installed a mechanical refrigeration plant, the first in the province. The Government is operating two creameries in Cape Breton, one in Baddeck, the other in Margaree. The Margaree Creamery is meeting with good success.

Mr. MacKay visits the various creameries and encourages cream grading, the use of the Acidometer churning records and moisture tests.

Creamery picnics were held at River Hebert, South River, Bridgewater, Scotsburn, Malignant Cove and Margaree as a means of getting the patrons together in a social way and discussing the problems of their respective creameries.

In concluding his report Mr. MacKay said: Nova Scotia is splendidly adapted for the successful prosecution of the dairy industry. There are no prospects for over doing, so that instead of producing one-half million in the industry, ten million is quite possible. The output of the creameries of Nova Scotia has increased over a thousand percent since 1907.

J. W. Mitchell, the new Live Stock and Dairy Superintendent for New Brunswick was the next speaker.

Mr. Mitchell is not a stranger in the Maritime Provinces as he had charge of dairy work here in 1901-3 of which time he gave some reminescences. He was glad to know that Nova Scotia was so rapidly progressing in the dairy industry. Success is sure to follow the adoption and practice of right principles. Dairying is a manufacturing business and in it, as in every other line of industry, the profits are the difference between cost of production and returns received for the finished product. He recommended the dairymen assembled to produce economically but produce a quality article. Produce quality milk during the major portion of the year. Be fair to the cow. Give her proper conditions. Feed economically by growing more feed of desirable kinds, such as legumes and foods rich in protein. Plan for soiling crops. Weed and build up the herd. Attend to the individual members of the herd in regard to testing and feeding and the average of the herd will take care of itself. He claimed the majority of the herds in the Maritime Provinces could be reduced 50 per cent. in number and still increase the present production. He intimated that in New Brunswick, where societies purchasing pure bred stock are bonused, he will plan to increase the bonus in cases where stock purchased is from record making ancestry.

Mr. Mitchell is a strong advocate of the cream grading system. It is a sound business principle to pay according to quality. Grumbling re the cream grading system does not come from the producers of quality cream. The careless producer is the one who always finds fault.

He recommended the farmers present to make 35% fat their standard cream test—not over 40% and not less than 30%. This makes a cream that is easier cared for and that is not so bulky to handle. As a parting message, Mr. Mitchell advocated the improvement of dairy products quality and the increase of quantity.

Mr. Burgess of the Cold Storage Department, Ottawa, who acted as one of the judges in the butter exhibition said the new butter was good, but he had found the October make not so good as he had found in the same class last year.

The major fault with the newly made butter was its moisture content. One of the October packages was particularly moldy and sufficient care had not been exercised in the selection of boxes or in the quality of the parchment used.

The trophies and prizes in the butter competition were then presented.

The Thursday morning session was devoted to the butter scoring contest and discussions on the various samples of butter at the exhibition as outlined on page 173 of this issue.

Thursday afternoon was the business session. Officers were elected for the current year as follows:

President—D. W. Murray, Scotsburn; Vice-Pres.—A. M. Wheaton, Wolfville; Secy.-Treas.—W. A. MacKay, Truro; Directors—President, Vice-Pres.; C. R. DeLong, New Germany; A. Cameron, Lower South River; H. Falconer, Stellarton; Auditor, C. R. B. Bryan.

The live questions brought before the Convention and discussed were: Cream Grading, Insurance, The Workmen's Compensation Act, Oleomargarine and Next Year's Dairy Exhibition.

The judges on the Dairy Exhibition reported very favorably on the quality of the fresh made butter, but not nearly so well on the October butter, as the score would show. A discussion took place relative to the Creamery Butter Exhibition for Next Year and a motion was brought in favoring that arrangements be made to have a sample package from each creamery sent to cold storage in Halifax each month from May to October, this to be scored in the fall. The Department of Agriculture through the Association are willing to give considerable support in this direction and the idea received very favorable support from nearly all of those present, only one or two of the creamery managers not falling into line. Mr. W. B. Proctor, of the firm of Smith & Proctor, on behalf of his firm, offered that if such a competition was held that they would present to the winner $100.00 in gold. Mr. D. C. McNeil, on behalf of the DeLaval Dairy Supply Co. offered to present $50.00 in gold. If the creameries can be got to support this movement, the competition will be held.

Resolutions were passed as follows:

Resolutions

Resolved that this Nova Scotia Dairymen's Association in Convention assembled extend fraternal greetings to the Maritime Stock Breeders in Convention assembled at this time in Room 1.

Resolved this Association wishes to express its sympathy to the veteran dairyman, Mr. Geo. Vinten, of Antigonish, on account of his continued indisposition during the past year.

* * *

Resolved that the thanks of the Dairymen's Association be tendered to the Judges, Messrs. Harvey Mitchell, Joseph Burgess and C. W. McDougal for the very efficient manner in which they have distributed the butter awards.

* * *

Resolved that the thanks of this Association be extended to Prof. J. W. Mitchell, Live Stock and Dairy Commissioner for New Brunswick, for assistance rendered at this Convention.

* * *

Resolved that this Association tender to the Dept. of Agriculture of Nova Scotia our high appreciation of the efforts of our Dairy Superintendent, W. A. MacKay, in the advancement of the Dairy Industry in this Province.

* * *

Whereas the following have contributed so liberally to the success of the Exhibition which has been held in connection with this Convention, Therefore be it resolved that the thanks of the Nova Scotia Dairymen's Association be forwarded to the Canadian Salt Co., Ltd., The DeLaval Dairy Supply Co., Ltd., The J. B. Ford Co., C. Richardson & Co., also to the butter buyers, viz—Smith & Proctor, R. B. Colwell, Nickerson & Co., Halifax; Smith & Proctor and Harris Abattoir Co., Sydney.

* * *

Whereas the importance of the grading of cream which has been so forcibly presented to us by the several speakers of last evening, also the marked benefit which the creameries who have graded have received from the grading of cream in the past. Therefore, be it resolved that this Nova Scotia Dairymen's Association strongly urge on all creameries the advisability of the grading of cream by all creameries in this Province.

* * *

Whereas an agitation has been brought to bear on the Government of the Dominion of Canada, to permit the importation and manufacture of oleomargarine into Canada as a substitute for butter, and whereas after giving this matter consideration, we believe that this would be detrimental to the dairy interests in Canada and whereas in the countries where oleomargarine is sold, it is not giving any real relief to the consumer, due to the fact that the price of oleomargarine is kept as near as possible to the price of butter and whereas we believe that the sale of oleomargarine would seriously affect the consumption of butter,

Be it resolved that we, the Dairymen's Association of Nova Scotia in Annual Convention here assembled, place ourselves on record as being opposed to the lifting of the restrictions as they at present exist, and that a copy of this resolution be forwarded to the Minister of Trade and Commerce and also to the Minister of Agriculture at Ottawa.

* * *

Whereas there is dissatisfaction in the butter trade regarding the irregular weights of butter in 56 and 28 lb. boxes, due to the irregular size of boxes and whereas the same irregular weights lead to confusion in the competition butter exhibits it is Resolved that this Association in Convention assembled recommend the box manufacturers to supply our creameries with a butter box of more uniform capacity and better quality.

* * *

Whereas there is dissatfsfaction in the butter trade regarding irregular weights of butter in 56 lb. and 28 lb. boxes and

Whereas the same irregularity of weights leads to confusion in the competition butter exhibits, be it

Resolved that this Association in Convention assembled would recommend that in Association exhibitions the creamery solids classes be the standard export weight of 56 lbs. and 28 lbs.

* * *

Resolved that this Association have the By-Laws and Constitution Dairyman's Act and Amendments to Act of the Dairymen's Association printed and the Secretary be authorized to proceed with same at his discretion.

Delegates were present from nearly all of the cheese factories and creameries of the Province and on the whole the Convention was the most successful yet held.

In the evening the members of the Association and friends to the number of about forty were entertained to a banquet by Mr. J. D. McKenzie, manager of the LaHave Creamery Co., and winner of the Butter Buyers' Trophy in the exhibition. A very enjoyable time was spent.

THE HIGH COST OF LIVING FROM A FARMER'S VIEW POINT

Mr. President and Members of the Lunenburg County Farmer's Association, I have been thinking for some time past what I would have to say at this annual meeting. I finally decided on the high cost of living from the farmer's standpoint of view. There has been econsiderable agitation in the newspapers and magazines throughout the country in regard to the high cost of living and many untrue statements have been made with reference to the responsibility of the farmer in regard to the matter. Therefore in order that the consuming public may have some of the facts explained, I will submit the following:

It must be always borne in mind that from the dawn of history the food of the world has been produced by a 10 to 16 hours labour day. In many countries with cheap labour and high priced lands the yield per acre exceeds that of Nova Scotia. The Nova Scotian with cheap lands and high priced labour produces nearly as much per man as does any farmer of any country of the world. The high cost of farm products is due to several causes. Some of the more important ones are:—The climatic condition of this country during the past year was perhaps one of the leading causes of crop shortage, a long cold wet spring followed by very hot dry weather. Extending over Canada and the United States for example the wheat in the

north west was a crop failure. This is particularly true of potatoes. The potato crop of Nova Scotia was 3 million bushels above that of last year. Taking the Canadian crop as a whole it was below the average. The first reason was climatic conditions, the second was shortage of farm labour due to the war, and the third reason was the high price of Blue Stone. Many farmers did not spray in this country, the result was that rot set in. Now as to the markets for Canadian potatoes the United States has lifted the embargo on Canadian potatoes. Cuba is taking large cargoes of our potatoes. The Cuba market is strong paying $6.25 per barrel. A Lincolnshire firm is open to consider quotations. A Staffordshire firm is open to receive quotations on hundred ton lots. A Leicester firm is open to receive quotations on a hundred ton consignment. A North Staffordshire firm is open to buy Canadian potatoes. It must be borne in mind that the high price has struck the farmer in whatever he buys as much as it has the city consumer. Farm labour is scarcer and higher than ever before. Everything the farmer buys whether machinery, fertilizer, fencing, clothing, or the necessaries of life have increased by leaps and bounds. This is also true of taxation. The fact that nearly one half of the civilized world have left the field of production and entered the work of destruction, has increased the demand for all kinds of produce and goods. As to the products of the farm, the fixing of prices is mainly by the law of supply and demand in the markets of the world. At present the prices of some articles, such as milk, is cheap taking into account its food value. The consumer of Bridgewater is paying 7c per quart for milk.

Again the consumer is holding the farmer up for the high price of meat. We are not getting a higher price for our fat oxen than pre war times. Five car loads of beef steers left Bridgewater the last 2 weeks. All the butchers were paying was $13.00 per hundred. Hides have advanced 6 and 7 cents per pound since last year. The farmers do not benefit by the advance. Take the hog, from 1904 to 1914 Canada's export trade with Britan in hog products decreased and Denmark's increased. From 1914 Canada's export bacon trade increased and Denmark's has gone the other way, showing a falling off of 73,000,000 pounds for the fiscal year ending March 31st. For the fiscal year March 31st, 1914, Canada has exported totalled 23,620,861 pounds, for 1916, 144,150,309 pounds. The United States experienced a like increase. On June 30th, 1916, there were less hogs in the country than at any time during the previous ten years, and from 1911 to 1916 of one million. In England and Wales the number of hogs has been reduced by a quarter of a million; during the year ending June last in France the reduction in total numbers amounted to upwards of a million; in Prussia the decrease from December 1913 to the same date last year has decrased 8,371,000.

The dairy situation. A great many of the consuming public is blaming the farmers for the high price of the dairy products, and that the LaHave Creamery is responsible for part of this. No one department of the farming industry has received so much public attention during the past few years as has this particular branch. I am speaking of Nova Scotia. It is true that we had a record harvest of hay, good crops of grain, the best yield of corn on record. The turnip crop was a failure. It is also true that the creameries of Nova Scotia has increased 30 per cent over last year. Part of this is due to the increased development of scientific knowledge turned over to the farmer, through the Agricultural college short courses and other agencies. There are many causes why butter is high. All kinds of feed are high. Canada is exporting butter. In pre war times Canada imported butter. The State of Maine has 10,000 less cows than she had 10 years ago. This applies to all the New England States. Ten per cent of the cows did not conceive during the past year. I know of 15 cows in one Agricultural Society that did not conceive during the past year. Again a great many of the farmers are not feeding their cows as good as if their turnip crop had been good, not destroyed by club root as was the case. Again day by day finds less men on the farm to tend these cows. Finally again why living is high, our city cousins have got the habit of ordering supplies by telephone. This has brought into being a minute delivery system, that essentially adds largely to the ultimate cost of food products. The consumer is ready and willing to pay a fair price if he knows the facts, and the farmers will be willing to discuss these matters which are so vital to both producer and consumer alike.

Address by Wallace Rhodenizer before the Lunenburg County Farmer's Association.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

MARKETING POTATOES

(Experimental Farms Note)

From the consumers' side, the question of marketing potatoes is of the greatest importance, especially so in years when the prices for this commodity are advancing daily. The officers of the Experimental Farms recently had an opportunity of inspecting quantities of potatoes in the consumers' own cellars. The potatoes had been purchased in the ordinary way from small dealers. The condition of the potatoes was most unsatisfactory. In three cases the amount of rot came up to 75% of the total quantity in storage. This rot was the common Late Blight rot, and was certainly present when the potatoes were dug, and before shipping.

The consumer is hepless in such cases, and rarely is there a way open to him for compensation. Nor is the small dealer to blame. The blame rests entirely with the shipper and the grower. In order that such losses may be avoided and the consumer be in a position to secure for his good money, good potatoes that will keep over winter, it is necessary for the growers, on their part, to exercise more care in digging, sorting and handling potatoes. Late Blight is a preventable disease; every farmer should know this fact, since the Experimental Farms system has made every effort to demonstrate on many farms in the country the effect of spraying, with results showing the production of sound crops, and an increase in yield amounting to some 90 to 100 bushels per acre.

The sale of inferior potatoes is dishonest, if not illegal at the present moment. Farmers know from their own experience that storage rots cause great losses in their own cellars. It seems, however, the general practice to dispose of an infected crop immediately and shift the losses from rot from the farmer to the consumer. The latter, however, has to pay the price of good potatoes.

In some instances, no doubt, the consumer is to blame by storing potatoes (or other winter vegetables) in too warm cellars. Potatoes and similar vegetables must be stored in a cool place. They cannot stand frost, which causes a sweetish taste in potatoes; but the temperature should never rise over 40°F. Where such conditions are non-existent it s better not to lay in a winter's supply, as losses are sure to result.

Farmers are cautioned that the attitude of consumers will eventually result in demanding grading of potatoes just like apples; and the farmer who does not control diseases in the field, will have all rotten or diseased potatoes thrown on his hands. Diseases potatoes, when boiled, still make good stock food, it should be remembered. A letter or postal card addressed to the Publications Branch of the Department of Agriculture will bring by return mail all the required information relating to the growing of crops of potatoes free from disease.

LARVAECIDE SOLD NOT GIVEN FOR TRIAL PURPOSES

In our report of Mr. Reid's talk on Larvaecide before the New Brunswick Agricultural Societies' United, we said "Last season a small quantity of Larvaecide was manufactured by hand and "given to farmers" in various parts of New Brunswick and Nova Scotia for trial purposes." Mr. Keith, salesmanager of the Larvaecide Manufacturing Company writes that this paragraph should have read "sold to farmers at the same price as we are asking this year" instead of "given to farmers".

In the report of Ayrshire cows and heifers that have qualified in the Record of Performance test from October 9th to December 9th, 1916, we find that Rosie—25936, owned by Campbell Bros., Stewiacke, N. S., heads the Mature Class with 11,620 lbs. milk testing 3.23 per cent butter fat and yielding a total of 375 lbs. fat in 363 days.

Milkmaid of Orkney—39834, owned by Harmon MacPherson led the four year-old class with 14872 lbs. milk, testing 4.00 butter fat, and yielding a total of 596 lbs. fat in 365 days.

The three-year-old class was led by Queen Jessie of Brookside—41406, owned by John McKee, Norwich, Ont., milk testing 4.41% fat. Total fat 448 lbs. in 328 days.

Maud of Fernbrook 3rd—46182, owned by Collier Bros., Beachville, Ont., led the two-year-old class with 8,982 lbs. milk testing 4% butter fat and yielding a total of 360 lbs. fat in 365 days.

The many friends of Rev. Father D. J. MacPherson, formerly parish priest at Glendale, Cape Breton, will be pleased to know that he has been appointed chaplain to No. 9 Stationary Hospital (St. F. X. Unit). Father MacPherson has just been transferred from Saloniki where he had been stationed for several months.

Father MacPherson graduated from St. F. X. in 1898.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $1.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up. Stamps taken.

Jersey Cattle

Cann Bros., Yarmouth, N. S.
F. W Foster, Kingston, N. S.
Edward Young, Silver Falls, N. B.

Guernsey Cattle.

T D. Blaikie, Great Village, N. S.
Barry P. Hill & A. N. Faulkuer Great Village, N.S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorcheste , N. B.
James McKenny, Summerhill, Queens Co., N.B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Oattle

R. J. Messenger, Lawrencetown, N. S.
C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
Hon. W. Owens, 4026 Dorchester St., Montreal.
J. Frank Roach, Sussex.
Fred. S. Black, Amherst, N. S.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
W. E. B. Tait, Dorchester, N. B.
Walter E. Eaton, Upper Canard, N. S.
Joseph E. Kinsman, Upper Canard, Kings Co. N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Oxford Down.

Fred S. Black, Amherst, N. S.

Cheviot Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Southdown Sheep

E. W. Heurtley, P. O. Sutherland's River, N. S.

Shropshires

C A. Archibald, Truro, N. S.

Yorkshires.

R. J. Messenger, Lawrencetown, N. S.
Hon. W. Owens, 4026 Dorchester St., Montreal.
Sydney J. Goodliffe, Sussex, N. B.

Chester Whites.

Howard W. Corning, Coeggogin, Yarmouth Co. N. S.
A. A. H. Margison, East Centreville, Carleton Co., N. B.

White Wyandottes

R. J. Messenger, Lawrencetown, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B.

SALE OF POULTRY

to make room for young stock all our Buff Orpingtons and Silver Spangled Hamburgs will be delivered after Halifax Exhibition.

SEAMAN & STEWART,
Box 325. Moncton, N. B.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Advertise in the Farmer

One Cent a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 1 cent a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is one cent a word, each insertion. MARITIME FARMER, Sussex, N. B.

TEN Shorthorn Bulls for sale. — WALTER EATON, Upper Canard, N. S.

FOR SALE—Registered two-year-old Clydesdale Stallion, price moderate. — LENNOX NAPIER, Lower Woodstock, N. B.

FOR SALE—Hampshire Sheep, both sexes also some males and females of any of the popular breeds. All good stock.—CEPHAS NUNN, Winsloe, P. E. I.

WOULD YOU MARRY IF SUITED? Best matrimonial paper published. Mailed FREE.—THE CORRESPONDENT, Toledo, Ohio.

FOR SALE—Ayrshire Bulls and Heifers, from one week to two years. Registered Clydesdale Stallions and Mares John A. Hughes, Petitcodiac, N. B.

FOR SALE.—"Oakfield Fern Prince," registered Holstein Bull, aged 22 months. Price $85.00. Sire, Homestead Prince Dorinda; dam, Cobequid Holbron Fern Ada. Apply FOREMAN, Oakfield, Halifax Co.

LADIES to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges prepaid. Send stamp for particulars to NATIONAL MFG. COMPANY, Montreal.

FARMERS DON'T MISS THIS—I have a few of the wonderful Aladdin Coal Oil Lamps left which I am offering at very low prices. Write for full particulars. Address E. H. SMITH, Nauwigewauk, N B.

TROTTER FOR SALE—Handsome Black Gelding, young and kind; not afraid of anything; a fast trotter with lots of action. Safe for a lady to drive. An extra good ice hors . Would exchange for a heavy express horse.—A. M. WILSON, Erskine St., Dartmouth, N. S.

WANTED.—Working foreman for 100 acre farm, Annapolis Valley, 30 acres of which is bearing orchard. Must be competent to take full charge and relieve owner as he has other business. Married man preferred. Apply to MARITIME FARMER.

FOR SALE.—One of the best Clydesdale Mares in Eastern Canada; imported. Won first prize at P. E. I. Exhibition, 1913, also first at Cape Breton Island Exhibition, 1915 and 1916. Price $300. Weighs 1660 lbs. Also pure bred Foal of same, foaled April 23rd, 1916, also first in class at exhibitions. The Department of Live Stock Records, Ottawa, are at present attenders to registration of this animal. Price $130 —ROD. McLEOD, Glen Farm, Groves Point, Cape Breton.

J. H. Grisdale, Director of Dominion Experimental farms sends the following message to the farmers of Canada through the columns of the Christmas number of The Nor'west Farmer. Successful crop production depends on:

Securing and properly cleaning a plentiful supply of the right kind of seed, as an early maturing, good quality of wheat, a heavy yielding, strong strawed oats, and an up-standing heavy yielding barley, etc.

Having every implement and every horse or other source of motive fit and ready for the first favorable day for seeding.

If humanely possible, loose not an hour in seed time.

Do all spring work well. While in good years this may not always seem profitable, in poor seasons it is sure to pay, and it is for poor seasons we must always prepare.

Do the summer cultural work well. It will show up next year. Be ready for the harvest rush. Power and machinery fit and ready days ahead.

Thresh or stack without delay.

Keep moving toward mixed farming. This is only indirectly imperative, but, while its neglect might not seriously affect immediate results, it will, very certainly influence crop production at an early date on even the most fertile grain farms.

Keeping the fall-farrowed pig comfortable is half the battle of making it a profitable animal on the farm.

FOR SALE!

R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

Shorthorn Cattle!

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Guernsey Bull for Sale

A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

Sarah E. Moses Smith,
Woodwards Cove, Grand Manan

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

Florida Fruit Farm $950

Five acres, on auto brick highway, half mile to village; 5 minutes walk to beautiful lake; bearing orange grove of 116 trees and lots of lemons, peaches, grapes, etc.,etc.; 8-room house, barn and poultry house. If taken soon owner includes some tools and household furniture. $950 takes all; half down. For details this and many farm bargains in Florida and a dozen other states see "Peace and Plenty Catalogue," copy mailed free.—E. A. STROUT FARM AGENCY, Dept.2612, 294 Washington St., Boston.

Meadow Brook Shropshire Sheep

Dispersion Sale of Shropshire Sheep

Fifteen Breeding Ewes, 5 Ewe Lambs, 2 Ram Lambs. The farm is sold and the sheep have to go. The flock was established 20 years ago and the best sires obtainable were used. Flock can be seen at Meadowbrook Farm, Rocklin, Pictou Co., N. S., or write for particulars and prices to

FARM INSTRUCTOR,
Dorchester Penitentiary, - - N. B.

COMING EVENTS

Nova Scotia Fruit Growers' Association, Lawrencetown, N. S., January 16, 17 and 18, 1916.

New Brunswick Farmers' and Dairymen's Association begins January 29, 1917, and New Brunswick Provincial Seed Fair, Fredericton, N. B., January 31, 1917.

Butter and cheese makers courses at the N. S. A. C., Truro, March 7 to April 4, 1917.

Nova Scotia Farmers' Association, Amherst, N. S., January 23, 24 and 25, 1917.

Butter Parchment at Farmer Office

SHEEP!

We have thirty head of Breeding Leicester and Cotswold ewes for sale at present. Apply at once.

Eastern Karakule Sheep Co.
Limited
WINDSOR, N. S.

MORE MILK—BETTER MILK

Thorough tests on the Government Experimental Farms show that cows after being dehorned give more and better milk. The KEYSTONE DEHORNER is the most humane and efficient instrument for the purpose. Write for booklet. R. H. McKENNA, 219 Robert Street, Toronto.

JERSEY BULLS

Two young Jersey bulls from dams with R. O. P. records. We will sell these bulls at a reasonable price and on condition that the purchaser may return the bull if he is not satisfied with him and we will return the money and pay freight. These bulls are bred right and will get producing stock. Order one you run no risk.

W. C. CLARK & SONS,
NORTH WILTSHIRE, P. E. I.

STRAWBERRY PLANTS

For the Spring of 1917 we are listing the following varieties:

Senator Dunlap, Sample, Warfield, Wm. Belt, Arnout, Valeria, Desdemona, Ophelia, Portia, Glen Mary, Buster, Haverland, Kellogg's Prize, Paul Jones, Progressive, Superb.

Our new Catalogue and Price List will be ready about the first of the year, and will be sent free to all our old friends and any new ones that are interested in berry growing. The new fall bearer, Progressive, is a great addition to the strawberry world. Be sure and include them in your order for 1917.

CYRUS & MANNING ELLS
Port Williams, N. S.

GRADE AYRSHIRE COW

We offer for sale a choice Grade Ayrshire cow, 6 years old, that freshened in July and now milking 20 lbs. a day. She is good size, with large udder and teats and an easy milker. Price $45.00.

One pair Buff Wyandottes, $3.00.
White Leghorn Cockerels, $1.50 each.

ORCHARD HILL FARM,
Brown's Flats, N. B.

Try an Ad in the FARMER

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, JANUARY 23, 1917. Number 8.

The N. S. Fruit Growers' Convention

The fifty-third Annual Meeting of the Nova Scotia Fruit Growers' Association was held on January 16th, 17th and 18th in the Agricultural Demonstration Building, Laurencetown.

The executive of the Association had been criticised adversely for settling on Lawrencetown as the place of meeting, owing to limited hotel accommodation. Knowing the public spirited citizens of Lawrencetown to be equal to the occasion, the members of the executive, like Brer Rabbit, "said nothing and lay low."

Dr. J. B. Hall was one of the committee who had the housing of the members in charge and that was assurance enough that everything would be done in his usual methodical style. Many of us who were former pupils of Dr. Hall at the Normal school, were pleased to meet him again and find him as active and energetic as in our school days. Dr. Hall takes a great deal of interest in the extension of Agricultural Education to the rural schools of the province and is a tower of strength in promoting the various organizations that make the Lawrencetown Agricultural Demonstration Building their headquarters.

On arriving in the pretty little town the members of the Association found ample accommodation for everybody. When the hotel was comfortably filled the overflow was cosily lodged in the spare bedrooms of the best families of the town. The former adverse criticism was soon changed to well deserved praise and the convention settled down to business at 2.30 o'clock on Tuesday afternoon.

As to the building in which the meetings were held, more appropriate quarters could not de desired. The assembly room of the Demonstration Building is commodious, clean, well lighted, well heated and comfortably seated the convention. Every seat in the hall was filled. Good order prevailed and excellent attention was paid to the respective speakers, which was clearly demonstrated by the intelligent discussions that followed the various addresses.

After the invocation of the divine blessing on the deliberations of the meetings by Rev. S. J. Boyce, the President of the Association, F. A. Chipman read the following address:

The President's Address

MEMBERS OF THE FRUIT GROWERS' ASSOCIATION—Ladies and Gentlemen;

It becomes my pleasure, as well as my duty, at this our fifty-third Annual Convention to deliver to you the opening address.

The year 1916 stands unique in the apple growing history of Nova Scotia. To the up to date grower and the optimist the large rewards have gone; to the careless grower and the pessimist, the failures. In the spring of 1916 the Valley was divided into two camps, the one saying, "It is no use to spray this year, apples will be worthless next winter," the other saying, "We cannot afford to neglect our orchards even if we do get nothing for our crops of this year." The result you all know. The growers who stood by their orchards are for the most part marketing good crops and in many cases record crops of fruit, at better prices than they have received for years.

The crop in the British Isles was very short. In the United States the crop was somewhat short and was, and is now, kept from competing to any extent with our crops on the British market on account of lack of transportation facilities at any price. Thanks to our authorities and to the much appreciated and successful efforts of Mr. J. E. Furness, Canadian Manager of the Furness Withy Company, we have been allowed as much space as we could expect in such times as these and are receiving unusually high prices considering conditions.

In explaining the shortage of the 1916 crop in Nova Scotia the assertion is made by many of our best growers and authorities on the subject that the quantity of apples produced depends on the spraying of the previous year rather than on any treatment of the current year, the effect of the spraying being to keep the leaves healthy and to keep them on the trees until late in the fall, so forming strong fruit buds. The year 1915 was unusually bad for fungus growth and the leaves in unsprayed orchards dropped very early preventing the formation of fruit buds in such orchards. This explains the very uneven crop of 1916, with the orchards of Col. Shippy Spurr, of Melvern Square, giving a record crop and containing so few No. 3's that none were packed, of John Buchannan, of Berwick bearing a record crop of the highest quality of fruit and Mr. A. K. and Ray Clarke, of Lakeville, with bumper crops and no orchards within miles of those named approaching them in quantity or quality. Just now let me say that black-spot or apple scab never was so prevalent in Ontario as in 1916. Many of the Ontario orchards were almost defoliated in August and September, owing to the scab infecting the leaves. I leave it to you, gentlemen, to guess the effect of that on the Ontario crop of 1917 and to judge the extent to which Ontario apples will compete with our apples in 1917-18.

It is futile for me to remark on the war. Needless to say that it must and will be carried to a successful and we hope speedy termination. The fruit farmers of Nova Scotia have sent their quota of men and more, one or two localities in the Annapolis Valley having probably as high a percentage of men enlisted to fight for the Empire, as any in Canada.

As fruit growers studying the economical growing and marketing of our product, we are in very much the same position as last year and we may, I think, with profit, ask ourselves the same question as the successful optimist of last season asked himself, "Can we afford to neglect our orchards even if we do get nothing for our crop of this year." And who knows what we will get for this year's crop.

Prices up to date have been phenomenally high and the members of the Co-operative Fruit Companies and those growers who had the courage to ship, have received better prices than for many years past. Unfortunately many of our growers sold out early in the season to speculators at prices ranging from one dollar to one fifty per barrel for No. 1, 2 and 3 in standard varieties. Some 80 per cent. of the apples outside the fruit Companies were bought for these prices and many of the company members unwisely sold without consulting the management, getting in many cases a ridiculously small price and at the same time injuring their fellow members by setting a low price on apples as well as increasing the expenses of the company by forcing the other members of the company to carry overhead charges and dead warehouse space on apples sold to speculators.

This year is giving the co-operative movement in the Annapolis Valley the greatest boost in the history of the organization. There is no doubt that without the cooperative companies 90 per cent. of the fruit would have been in the hands of the speculators at the price previously indicated. Whether we are members of the Companies or whether we take the benefits of the Company by forcing the speculator to give us higher prices, we must acknowledge that this year the Fruit Companies have saved their members thousands of dollars while those outside the Companies who sold for small prices remind us of the treatment we should all receive if it were not for our justly famous Co-operative organization.

The best of us cannot even guess at the present time the prospects for 1917 apple crop. In my opinion we should at least not neglect our orchards. We should not only "Hope for the best and prepare for the worst," but we should "Work for the best and prepare for the worst." In working for the best let us grow as good a crop of apples as possible, as cheaply as possible and make plans to market them to best advantage next year. In preparing for the worst let us ask ourselves how we can carry on our house and farm most economically during the coming year. I believe that we could profitably spend an afternoon discussing among ourselves economies about the farm. We might ask ourselves a number of questions about economy.

Are we growing as much grain and rough feed for our teams as we should? Could we decrease the amount of Ontario mill feed that we are forced to buy by growing and feeding more roots?

Are we growing all of the vegetables, such am pumpkins, squash, beets, carrots, potatoes, turnips, cabbage, etc., that our families should consume?

Are we having as many vegetables, meats and fruits canned and preserved in seasons of plenty for the off seasons, as we should?

Is it not more profitable, as well as better for us to eat our eggs, chickens etc., grown on the farm than to sell them to dealers and buy beefsteak with the money?

Would it not be more economical to buy our fish, sugar, oil and such commodities by the hundred weight or barrel, instead of by the pound?

Are we situated that we can grow with profit a couple of acres of wheat for our next year's flour?

Are we growing and curing as large a proportion of the ham, bacon, pork, beef, mutton and poultry consumed in our homes as we should?

Have we ever considered the fact that sheep raising could be worked easily and well with an orchard. That in this province we grow the best flavored mutton in America as well as the best textured wool and best of all we can raise sheep to perfection on home grown hay and turnips and without that more expensive Ontario mill feed. Have we considered that the real reason that we do not raise sheep is on account of the cur dogs that some of us keep and pet and which, in war time as in peace time, consume enough food for a flock of hens or a pig.

If we are to grow beef on Ontario mill feed would it not be cheaper to grow that beef in Ontario and save the freight on the difference in weight between the beef and the feed or else take steps to grow our meat in the form of mutton on home grown feed.

I raise these questions, gentlemen, and hope that you will consider them both here and when you go to your homes. I believe that we are neglecting many opportunities as fruit growers, to provide our families and farms with better and cheaper food.

Again, gentlemen, let me remind you that during 1916, in spite of many fears that we had to the contrary, the rewards have gone to the men who worked and cared for their orchards.

I thank you for the honor of being chosen as your president and I hope that you will assist by questioning closely the speakers who are with us and by full discussions make these meetings both profitable to ourselves and to the community as a whole.

H. S. Shaw, S. B. Chute, W. H. Woodworth, W. S. Blair, S. C. Parker, F. W. Foster and others took part in the discussions on the various points

emphasized in the president's address. Several of the speakers expressed their view in no uncertain terms in regard to their utmost belief in the system of specializing on fruit-growing. Others favored the introduction of mixed farming in conjunction with fruit-farming, while some justified the latter from the patriotic standpoint.

Fruit Inspection and Inspectors

Mr. Geo. H. Vroom, Fruit Inspector for District No. 1 read a paper on the Fruit Inspection System, in which he reviewed the origin of the work, the various changes that have transpired and the evils that have been corrected from its inception up to the present time.

Mr. Wyatt asked if it is possible to pack apples in barrels for shipment to England with any degree of assurance that they will arrive at their destination in good condition?

Mr. John N. Chute, who has spent considerable time in England in connection with the fruit industry of Nova Scotia replied: They can, but every man can not do it. Packing apples properly is a trade in itself and given good fruit and proper package, other conditions being normal, when work is properly done no difficulty will be experienced.

Messrs. S. B. Chute, W. H. Woodworth, Leslie Wiltshire and M. K. Ells, referred to the poor grade of apples that is being handled by the vendors on the various passenger trains and on the tables of some of the hotels in the very midst of the best fruit growing sections of the province, and the necessity for an attempt at reform along this line.

Lessons Learned in English Markets

Was the subject of an address by Mr. J. N. Chute. The speaker outlined the sales methods as they exist. The two methods of sales are Auction Sale and Private Sale. The London market follows the Private Sale system, while many of the other large markets follow the Auction Sale plan. The latter is the most expeditious way in which the open market may be cleared of fruit. There are three sales organizations:—Brokers, Importers and Buyers.

These organizations follow three rules that require the attention of our fruit growers and packers. The first rule concerns the classification of apples re grades, types, slacks, etc.

The second rule concerns the minimum rate of expense of sales which are at time exhorbitant.

The third rule concerns the monopoly the members of the Buyers Association exercise on the right to seats in the sales room.

Mr. Chute said the only way to get redress in regard to the foregoing rules was through proper organization among the growers. He also offered the following suggestions:—Don't ship slack barrels. Fill barrels and do not head until only a short time before date of shipping. Do not bruise when heading. Pay strict attention to the colouring of the fruit. Look after the continental trade as well as that of Britain. Fruit intended for the continental markets must be well colored. Nova Scotia apples are gaining in favor and are more appreciated than American box apples. Grow fruit as perfectly as possible. You can sell poor apples, but you can sell many more if the quality is good. Advertising availeth not unless it is backed by the goods.

Results from Dusting Instead of Spraying in the Annapolis Valley

Was the subject matter of a paper read by Mr. Paul A. Murphy, of Charlottetown. The dusting method was tried in two orchards in the valley last year, for the purpose of contrasting results with that from spraying. The results were quite in accordance with the successful five years series of experiments conducted by Cornell University experimenters.

The lightness of the machine. The feasibility of operation immediately after a heavy rain storm and between showers, and the extensive area that may be covered in a comparatively short time, thus enabling the work to be done at just the proper time, were points argued in favor of the dusting process.

A dusting machine was shown in operation in the pavillion and the points emphasized appealed to some of the larger growers. Others who have tried and proved the spraying system were not so enthusiastic and expressed themselves as inclined to follow the old adage "the devil you know is better than the devil you don't know." Experiments will be continued with the duster during the following seasons and until more definite data, covering a number of seasons is obtainable, Mr. Murphy's advise was "Go slow." There will be extensive tests next season, as we understand several machines were purchased from the dusting machine's representatives who were at the meeting for demonstration purposes.

The Tuesday Evening Session

Was held in the pavillion section of the Demonstration Building, where there was ample room and comfort for the citizens of the town who wished to join with the Fruit Growers' in their deliberations. Not only did the citizens of Lawrencetown enjoy the various discussions, but their committee had a pleasing programme of instrumental and vocal music and reading numbers rendered between the addresses, which was much enjoyed by everybody and which showed a good sample of Lawrencetown talent.

The address of welcome was presented by Dr. Hall, who spoke with optimism and with a vision of what the future holds in store for a sane and sound system of Agricultural Instruction in the province. Dr. Hall is and has been a keen student of events and gave an interesting account of the growth of the fruit growing industry in the Valley. He optimistically referred to the opportunities that lie as yet only partially developed between the waters of Annapolis and Mines on the eastern and western extremities and the North and South Mountains on the other sides—a possibility for the growth of over 30,000,000 barrels of apples.

Prof. W. S. Blair, who replied to the address of welcome propounded the question "Are we doing what we can? Are we living to and practising according to the best of our knowledge." In conclusion he said: "Let us take stock of ourselves and our operations. Let us not stand still, and let each and every fruit grower in the Valley take an interest in the Association that means so much for the advance of their chosen industry."

The addresses of the evening were a paper on Injurious Insect Pests by Mr. A. G. Dustan, of Annapoiis. A talk by Prof. Britain on The Green Apple Bug. Extracts from these addresses will be published in future issues of The Maritime Farmer.

Miss Fletcher, the official stenographer of the Association, in behalf of the Returned Soldiers Comforts Association made one of the most clever appeals ever listened to by the Association, for donations of apples for the invalided soldiers, whose first request after landing in Halifax is almost invariably for an apple. The response was most generous. Prof. M. Cunning agreed to act as secretary of the fund and Mr. Graham, manager of the D. A. R. kindly offered to transport free of charge, all fruit donated for this purpose.

Mr. Graham also read a paper calling attention to the opportunities for national service by increased production and to the extensive markets that calls for and awaits the products of the Annapolis Valley farms.

At the conclusion of the Tuesday evening session, the Lawrencetown Board of Trade entertained the visiting fruit growers at a smoker, at which Patriotism and Production was the chief topic under discussion. Several members referred to their clover seed growing successes during the past year and to the good work done for them by the Government Clover huller.

The Business Session

Was held on Wednesday morning. The Secretary and Treasurer's Reports were submitted and certified correct by the auditors, J. Elliot Smith and W. M. Black. The report shows a balance of $182.12 on January 1, 1916 and receipts during the year of $806.50. The amount disbursed during the year was $637.20 and the balance on January 1, 1917 was $351.42.

The election of officers resulted as follows:

President—Prof. W. S. Blair, Kentville; Vice-President—F. S. Johnson, Bridgetown; Secretary—M. K. Ells, Port Williams; Asst. Secretary—F. W. Foster, Kingston; Treasurer—G. W. Munro, Wolfville; Auditors—J. Elliot Smith and W. M. Black.

Executive Committee—S. C. Parker, W. H. Woodworth, J. E. Schaffner, A. S. Banks.

The Advertising Committee of last year remains unchanged, and is to report at the next annual meeting.

Delegates to the Nova Scotia Farmers' Association—R. F. Newcomb, Port Williams and W. H. Woodworth, Berwick.

A letter from W. A. MacKay, Dairy Superintendent, was read, introducing a resolution asking for the prohibition of manufacture and sale in Canada of oleomargarine and butterine. The resolution was carried unanimously.

Mr. D. Johnson, the Chief of the Fruit Division, had come to Lawrencetown to be present at the various meetings and encourage the industry in which he is so much interested. On his arrival in Lawrencetown he was informed by wire that his brother had died and much to the regret of all concerned he had to return home by the next train. A resolution of sympathy was tendered to Mr. Johnson.

Prof. Blair introduced a resolution that the Association meet at one central point, preferably Kentville, each year for their Annual Convention, and make such a place the permanent home of the Association. Also that a fruit show be held in conjunction with the convention and that both convention and show be held late in November or early in December of each year.

This resolution envoked a lengthy discussion pro and con. The pangs of hunger had seized many of the fruit growers before the discussion was ended and when the motion was put to the meeting and carried, the number of members in the hall was very small.

Wednesday Afternoon

The resolution re the adoption of a permanent home for the Association was reconsidered at the afternoon session on Wednesday when both the hall was filled and the members stomachs were no longer craving for food. There was a lively discussion for a short time and on again voting on the question, the resolution was lost.

The committee appointed to prepare a recommendation re No. 3 apples brought in the suggestion that whereas there is no definition for No. 3 apples and whereas all kinds of trash are now being sold as No. 3's by unscrupulous packers, therefore resolved that No. 3 apples be defined so that culls may be excluded.

Off Crops and Their Causes

Was the subject of an excellent paper by Prof. W. T. Macoun, Ottawa, which was followed by a discussion on Factors Limiting Production of Apples in the Annapolis Valley, led by Geo. E. Sanders, F. H. Johnson, S. B. Chute, A. S. Banks, J. S. Margeson, W. H. Woodworth and others.

The substance matter of this address will be published in a future issue of the Maritime Farmer.

On Wednesday Evening

Prof. W. S. Bair gave a report of Work in Dominion Experimental Orchards in 1916, a synopsis of the findings of which is as follows:—

1. The dormant Lime Sulphur spray for scab control is of little value.

2. A stronger Lime Sulphur than 1 to 37 or 1.008 for the first spray for scab control is of no advantage.

3. Four regular Lime Sulphur Arsenate sprays, the first of which is applied when the buds have burst and the leaves partly open, the second, when the bossom clusters have separated and before the petals have opened, the third when 90% of the petals have fallen and the fourth, about ten days after the third spray are necessary for the control of apple scab.

4. If through lack of help and the rush of other work, the fruit grower decides to omit one of these two sprays before bloom, it is advisable to apply one thorough application midway between the time for the first and second sprays.

5. That Lime Sulphur and soluble sulphur are approximately of equal value for the control of apple scab, eleven tests with Lime Sulphur, 4 regular sprays with an Arsenate added, gave .78 as an average per cent of scab while eight tests of soluble sulphur with an Arsenate added gave 1.2% scab.

6. A greater strength than 1½ pounds soluble sulphur per 100 gallons is not necessary to control scab, whereas an increase in either the soluble sulphur or Arsenate may give greater injury to the foliage.

7. Lime Sulphur and Bordeaux mixture are equally effective in controlling scab but owing to the russeting of the fruit and burning of the foliage by Bordeaux, Lime Sulphur is the safe spray.

8. There is no advantage gained in using either the calyx or drive nozzle for scale control. The regular nozzles are the most economical and give equal results, beside the spray is more evenly distributed and less foliage injury resulted.

9. The kind of nozzle is not a factor in foliage injury as long as the amount of spray mixture remains constant.

10. The drench spray for plant bug requires approximately double the amount of spray required for the regular spray.

11. Arsenate of Lime when added to soluble sulphur does not prevent the yellowing nor the burning of the foliage.

12. Arsenate of Lime used with Lime Sulphur does not cause yellowing of the foliage nor increase the foliage injury over Arsenate of Lead.

"Experiments With Insecticides and Their Effects on Some of the Solutions Used as Carriers."

Was the subject matter of one of the most interesting papers read at the Convention. This paper will be published in full in our issue of February 6th. You will do your neighbor a good turn if you tell him about it and advise him to subscribe for the Maritime Farmer right away. This paper alone is worth the subscription price.

At the close of the Wednesday evening session the members of the Association were entertained at a moving picture show by the Board of Trade.

Thursday Morning

The closing session of the Convention consisted of two excellent papers and discussions.

(Continued on page 204)

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

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JANUARY 23, 1917.

DATES OF ISSUE.

February 6-20
March 6-20
April 10-24
May 8-29
June 12-26

THE VITAL POSITION OCCUPIED BY PRODUCTION

Nothing in recent years has so emphasized and impressed the real importance of agriculture and agricultural institutions as the war in Europe. It has demonstrated dependence upon this art and has raised it to a preeminent position in the welfare of the country. Ordinarily accepted without much thought or realization by the great body of people, it has suddenly sprung into an importance second only to that of the military activities. It has become, indeed, a recognized field of war service and one of the chief elements in the national defense. Its response, and the resourcefulness and practical value which its institutions have shown, have brought the present position of agriculture close home to the people as never before on so broad a scale.

The problem of maintaining, and in some cases increasing, the production of food for man and beast has been one of the large and difficult ones in the countries at war. It has taxed their skill and organization, and their ability to cooperate in the common good. With thousands of acres devastated, relations with other countries interrupted, and with a vast army of the farmers and laborers on whom production ordinarily rests suddenly become dependent on the labor of others, the necessity of cultivating all available land and making the soil yield its full return became a national concern in all the countries. It inspired unusual measures for stimulating and assisting those who were left on the land, and led to appeals for agricultural workers second only to those for men to fight.

The way in which this extraordinary demand has been met has furnished a new realization of the great advances in every branch of farming. It has entitled agriculture to a regard and consideration which it has not always enjoyed before. If it has not actually raised it to a new position in the lives of nations, intelligent understanding of its position has been greatly broadened.

And along with the rest, this supreme test has furnished an impressive illustration of the great share which agricultural investigation, education, and various forms of instruction have had in placing agriculture on a higher plane of efficiency and in making it more resourceful and adequate. The response of agriculture is in no small measure a reflection of the steady work of various classes of agricultural institutions and organizations, which has been going on quietly and often with meager support or understanding. The measure of strength of these agencies, and the extent to which there has been some form of agricultural organizations to assist, has been a large factor in meeting the unusual situation.

The first efforts in the various countries centered largely on providing the machinery for gathering in and saving the crops, and in this the assistance of the military was furnished to a limited degree. But as time went on the necessity became apparent of providing for the continuance of agriculture on the highest possible plane, of keeping up the fertility of the land, of preventing the depletion of live stock, of avoiding waste of all kinds, and often of discovering and utilizing new sources of supplies. Organized effort was therefore enlarged and increasing latitude extended in the temporary use of soldiers.

The attitude of cooperation between the military and civil authorities is well illustrated by the instructions of the French Minister of Agriculture in transferring to district commanders the assignment of soldiers to agricultural duties. He said: "The regular, prompt, and (as far as possible) complete execution of agricultural work constitutes one of the essential elements of national resistance and consequently one of the principal forces of success. The full use of the soil must be obtained at all costs, equally with the supply of men and material to the army, or the supply of labor to factories engaged in national defense." Soldiers were classified on the basis of farm experience, and opportunity given them to offer themselves for temporary work in the fields. In order to avoid unfavorable reflection upon such, the idea was widely disseminated that soldiers thus volunteering to assist in farm work were not to be regarded as "shirkers" but on the contrary as men doing a double patriotic duty, by fighting and by keeping their brother fighters alive.

In Great Britain the measures and appeals of the government have shown no less appreciation of the importance of agricultural work. Steps were early taken to organize the agricultural forces and to increase the food production. The situation called attention to certain conditions in that country which attempts were made to remedy by a readjustment of the systems of farming, and by organizing systematic means for providing labor and increasing the food returns from the land under cultivation. In directing public attention to the need of special efforts, the president of the Board of Agriculture expressed the conviction that "if agriculture had made no more progress in Germany than it has in the United Kingdom during the period 1895-1915, the German Empire would have been at the end of its food resources long before the second year of the war;" and he explained further that the war was being fought by that country quite as much on an agricultural as on a military organization of the nation.

In an appeal to farmers for an increase in the food production of England Lord Selborne said "You have something more on your shoulders than your own business to-day. You are no longer individual farmers making your own fortunes or losing them. You are trustees on your own land to do your best for England. You have your duty quite as clear and as definite as the captain of a cruiser or the colonel of a battalion. England has a claim on you farmers, men and women of every class, as clear as she has on our sons and husbands to go and serve in the trenches."

The force of the situation in Great Britain is illustrated by the fact that of the total area of cultivated land, two-thirds is in permanent grass and only one-third in cultivated crops, whereas in Germany the proportion is exactly reversed; and, furthermore, by the fact that even in 1915, when the wheat crop was the largest for many years, three-fourths of the wheat supply of Great Britain had to be imported. In 1915 the United Kingdom imported agricultural products valued at £276,803,000, whereas in the year before the war France spent only £60,000,000 for imported food

Similarly, in Germany the need for the greatest possible production of food has been impressed upon the people. The thorough cultivation has been urged of every available piece of land on farms and in towns, and societies have been formed to take the work in hand. Efforts have been made, for example, by the Moor Culture Union to increase vegetable growing on moor land the society announcing allowance to disabled soldiers settling on such lands.

The measures adopted by the various nations are of much interest. The French Government early applied organization to the resumption of farming in affected areas and its continuance on an efficient basis elsewhere. To save the crops the small holdings were "pooled," the inhabitants of the villages who remained being grouped together for that purpose and the assistance of the military given when circumstances allowed. The government also took measures to prevent the wholesale slaughter of live stock, first suppressing the customs duty on practically all food stuffs including frozen meat, and then excluding from requisition for army purposes cows in milk or in calf, brood mares, premium sires, pedigreed stock, heifers, and plow oxen. Similar measures were taken in Great Britain and Germany. In the districts of France that had been invaded, the peasants were in need of horses, implements, seeds, fertilizers, forage, etc. To provide these the government made advances to the peasants, and to prevent the credit banks from breaking down from demands upon them it loaned money to the Caisses Regionales de Credit Agricole, which in turn advanced money to the cooperative societies. Steps were taken to increase the amount of gardening carried on, by putting the opportunity for cultivating gardens within reach of even the humblest. The services of schoolmasters were enlisted to instruct children in gardening and to carry on model gardens.

To direct these efforts a "committee of agricultural action" was formed in each commune. These committees have formed a part of the government's plan for mobilizing agricultural labor, and have also become responsible for the cultivation of farms or holdings which have fallen out of use, the supply of seeds, fertilizers, etc.

In Germany systematic provision has been made for the cultivation of the land—selecting the crops most needed, for providing fertilizers and feeds, and economy in the utilization of agri-

cultural products. In addition to its previous agencies and its food bureau, an imperial office for vegetables and fruit, to further the production, sale, and preservation of fruit and vegetables, was established the past year, with power to provide for the growth of the necessary amount of these supplies and their preservation.

In Great Britain the organization for agriculture has been greatly extended and strengthened. War agricultural committees and borough war food societies have been organized extensively for the assistance of farmers and to secure further allotments of land for cultivation. Attention has been turned to the utilization of land not ordinarily employed in agriculture, such as private parks, golf links, pleasure grounds, etc., as well as bringing more land into cultivated crops. employment of waste woodland for raising pigs, etc.

The farmers have been urged to plow up the poorer of the permanent pastures, shorten the period of grass and clover in rotations, bring the remaining grass into the highest stage of production to enable it to carry more stock, reduce the acreage of bare fallow, and to cultivate more extensively crops for food and for animals.

The labor problem has been a difficult one in all the countries. In Great Britain persons employed in certain agricultural occupations have been exempted from military duty, but despite this, it is estimated that up to the middle of 1916, 320,000 men had been taken from the land. Special efforts have been made to secure labor at critical times, as during harvest, by a national volunteer movement, and women have been drawn into agricultural occupations as never before. In this they have shown adaptability and brought much favorable commendation on their services. Nearly every issue of the Journal of the Board of Agriculture gives accounts of the successful and satisfactory employment of volunteer women laborers, frequently drawn from classes not accustomed to outdoor work. Women's committees have been active in securing recruits, and to overcome prejudice in some sections and convince farmers of the fitness for farm work, agricultural demonstrations have been held by women in doing various kinds of operations, such as powing, handling teams, shearing sheep, etc.

The employment of women is even more extensive in other countries at war, and in many places the temporary employment of soldiers has been of very great assistance. The Army Council in Great Britain issued instructions the past season that as far as possible farmers be loaned draft horses, mules, and drivers for help in harvesting in the neighborhood. In Germany special attention was given this year to the prompt and proper harvesting of crops. In many cases public work of all kinds was interrupted in order to set free labor for that purpose. The extensive granting of furloughs by the military authorities contributed considerable supplied of soldier labor. In some sections the help of school children was enlisted in gathering the potato crop. France, Germany, and England to some extent, have made use of prisoners of war in carrying on farm work, the custom being to require the employer to pay a small wage for the services and provide suitable conditions for living. The results have generally surpassed expectations.

The various measures in aid of agriculture have prevented fine examples of cooperation between national, state, and local agencies. There has been cooperation between the civil and military branches, supported by a realization of the necessities of each, and between governmental and private organizations, often formed voluntarily for the purpose. The strength which this union of effort has given has enabled agriculture to maintain itself under most trying conditions.

But the measures for maintaining the food supply and other necessities have not stopped with the physical means of production. They have extended to advice and direction on the side of better farming, the conservation of supplies, and the utilization of new sources. The effort has tested ingenuity and resourcefulness to an unusual degree, and in this direction has led to new demands upon the various classes of agricultural institutions. It is interesting to note especially the effect upon the activities of the experiment stations and other agencies of research.

As was natural, there has been a decrease in the kind of activity which has characterized the European stations in normal times. The product of their past work has, however, become a source of great strength and resourcefulness in the countries at war. It has been drawn upon to a hitherto unprecedented degree, even that of more theortical character. The years of experiment and investigation and application have been realized upon in a way which has furnished renewed conviction of the practical value of such effort. Coupled with systematic agricultural education and the various forms of instruction and advice given upon farming, it has enabled effective resistance and decreased suffering.

The forces of many of the experiment stations have been considerably depleted by the war, through drafts for field service and death, and through the diversion of their activities in other directions. A station in Austria reports that it has been turned into a hospital; others have been largely diverted to making the necessities of life, serum, war munitions, etc.; a prominent investigator in Russia writes that he is now occupied in making preserved foods for the army on a commercial scale. In general the investigation is taking more practical forms. even among men whose previous work has been especially along theoretical lines.

The director of the Rothamsted Station, writing at the close of last year said: "The war is of course affecting us, though less than we thought it would. My young men have now practically all gone or are on the point of going, but their places are being filled by women so that the work continues. Naturally, of course, the objective has altered and the more academic problems are put on one side in order that more urgent matters can be dealt with. Much of our work now is advisory and some very interesting problems are turning up."

This advisory work and the making of tests and trials of various kinds are being participated in generally by the agricultural institutions in England and other countries. Nearly every number of the Journal of the Board of Agriculture contains notes on feeding stuffs, with suggested rations, prices per food unit, and similar information, supplied by the Animal Nutrition Institute of Cambridge University; advice as to sources and values of commercial fertilizers occupies a prominent place, and there are reports of numerous simple practical trials of fertilizers and feeds for immediate application. In some countries rules for the practical farmer are being worked out, and elsewhere tests made of new materials to serve as substitutes in agriculture or to replace the necessities of life in time of scarcity and high prices.

The maintenance of the industry on an efficient basis, with many of the ordinary supplies of fertilizers, feed, spraying materials, etc., diminished or cut off, has taxed the fund of knowledge and the resources of agricultural science. The high price and scarcity of copper has led to experiments to secure substitutes for copper

Mr. Ward Raised $43,000 Worth of Potatoes

Farmers are getting $4.00 a barrel for potatoes. Mr. Benjamin H. Ward of Aroostook County, Maine, raised 10,882 barrels (29,925 bushels) on his 75 Acre field last season. This is not an unusual yield but with the unfavorable weather conditions last season it is greatly above the average.

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Our practical book entitled, *"Potatoes, A Money Crop"* will tell you how the best potato growers in Aroostook County and elsewhere insure successful crops. If you wish to increase your crops and your profits send for your copy today.

If you will tell us the number of Acres of potatoes you intend to plant next year we will mail you a copy of this book free of charge. Ask for our prices on potato fertilizers. They are used by the best farmers in the northeastern United States.

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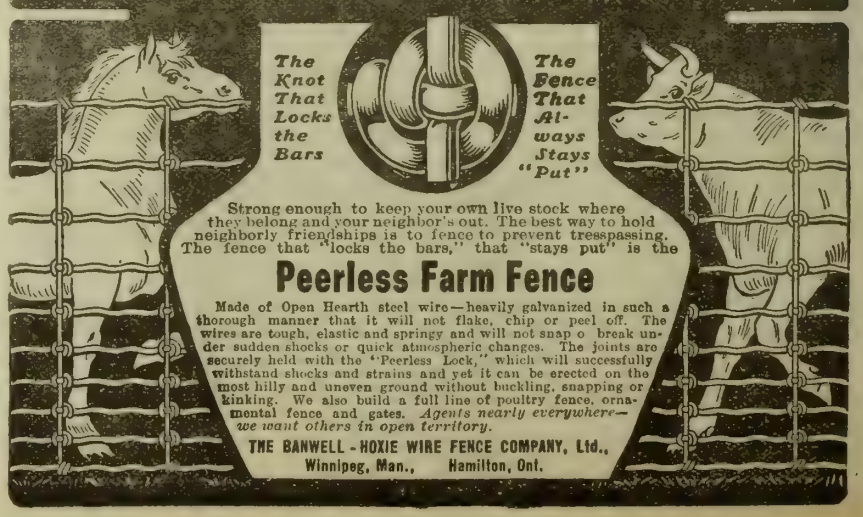

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salts in fungicides. The hot water method is being reverted to in treating seed for smut, and lime-sulphur is being given wider use. In France, unusually heavy losses were sustained from black rot in the vineyards, because of the inability to spray as much as usual.

Everywhere special stress is laid on the control of diseases and other injuries of standard crops like cereals, potatoes, beets, and grapes, to protect the food supply. We read, also, of efforts to prevent losses other than those due to insects and plant diseases, such as the killing off of wild animals, birds, etc., which injure or feed upon farm and garden crops, and of restrictions placed on the feeding of wild game.. Unusual stress is laid upon procuring good seed which will yield large returns, and special efforts have been made to provide such supplies. Plant diseases have been studied mainly from the practical side, with special reference to their control. The entomological studies have dealt largely with the relation of insects to the spread of disease.

Naturally there has been a great deal of work along food lines, with tests of various kinds of material for human food and for feeding stuffs. Yeast preparations, for example, have been devised as substitutes for meat, and found very digestible, and an egg substitute has been made from blood serum. Food preservation has taken great strides, especially desiccation by freezing or drying.

A process has been devised for preparing a cattle food from potatoes which can be kept for a long time with small loss by fermenting small and refuse potatoes in vats by means of special cultures. To meet the need for stock feed in Germany, methods have been perfected for utilizing straw, peat, and other coarse materials by chemical means and by fermentation, reinforcing the product with dried yeast or with potato flakes and molasses. Many substitutes for oats have been devised and experimented with, among others one called chicory crumbs, made from dried chicory roots.

In veterinary lines there has been much investigation upon antiseptics to take the place of more expensive ones, sugar and sale being found effective in many cases in the treatment of animal wounds. The use of polyvalent serum, formerly used in the treatment of human wounds, has been applied to animals. Some of the institutions formerly prominent in research work have been quite extensively occupied in serum making. Considerable work in the veterinary line is reported as coming from the field service instead of the laboratory.

In Germany there has been much activity in the fixation of atmospheric nitrogen, for general uses and for fertilizers, some marked advances having been made in the direction of efficiency and economy. Small beets, cull apples, beet residues, etc., are being employed in alcohol making; and many studies are reported on vegetable sources of oil.

The testing of farm machinery has been given special impetus on account of shortage of labor, and in some sections cooperative farm implement societies were formed to provide funds for their purchase or joint ownership. Of late, however, some difficulties have been experienced in securing the allotment of petrol for their operation. It was announced during the past summer that the Italian Government contemplated extensive purchases of labor-saving agricultural machines, to meet the difficulties caused by lack of farm hands—a new experience in that country.

Naturally the effect on the character of the agricultural literature from abroad has been quite marked. The standard journals come less frequently and several have been suspended. Many of the research articles now published relate to work done prior to the war, rather than current investigation; and summaries of old work are common, to point out the practical application of the results. The more strictly scientific publications, especially the publications of scientific academies and the general review journals, show a much reduced size as compared with the volumes of 1913 and 1914. This is, of course, to be expected, and the wonder is, not that so relatively little but that so much new investigation is being recorded at this time.

As noted above, there is unusual activity in the direction of popular articles based on good scientific practice, results of tests of substitutes for the customary articles of food, feeding stuffs, fungicides, fertilizers, textiles, etc., immunization against disease, and advocacy of the raising of small animals for food, such as poultry, rabbits, goats, etc., the latter occupying much space. There are reports of field crops tried out to supply local deficiencies, such as oilseeds and fiber plants in Germany; new varieties developed with a view to increased production on limited areas, tests of crops in regions in which they have not previously been grown to advantage, such as sugar beets in southern France, the feeding value of various unusual or waste products, and the like.

Several standard periodicals have suspended publication, among them apparently the Annales de l'Institut Agronomique de France and Annales de l'Ecole Naturale Agronomique de Montpellier; and nearly all the Belgian literature has ceased entirely. A notable exception is the Bulletin Agricole du Congo Belge, published by the Belgian Ministry of Colonies, which is now being issued in London, and two numbers of a new series Etudes de Biologie Agricole, which have been published by this ministry.

The agricultural literature from France has considerably diminished. Practically no scientific literature has been received from Germany since June, 1916, presumably on account of difficulties of transportation. The Italian literature shows less variation from the previous subject matter than does the French, German, and English. The official organ of the stations in that country, and also that of the Hungarian stations, has shown but little change.

Very many of the agricultural colleges and schools have felt the effects of the war. For example, in England the Royal Agricultural College at Cirencester, and the Agricultural and Horticultural College at Uckfield have been closed, and Armstrong College has been taken over as a military hospital, its agricultural department being temporarily housed in a dwelling.

Many of the French schools of agriculture had to close their doors on the outbreak of the war, but arrangements have since been made to open most of them. The national schools of agriculture at Rennes and Montpellier are being occupied by the sanitary service. A considerable number of the practical schools of agriculture and the farm schools have resumed operation, and several of these are receiving soldiers injured in the war.

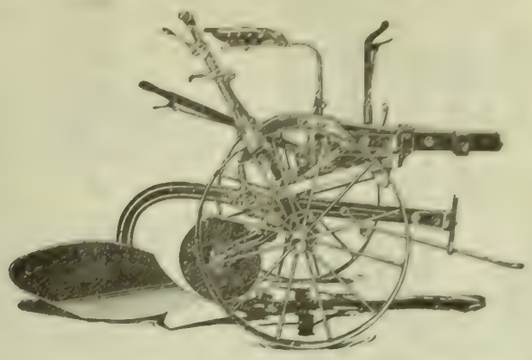
In Austria twelve farm schools, thirty-five winter schools, and seven elementary forestry schools were temporarily closed on account of the war. Several minor institutions in Germany closed their doors temporarily, and the courses and attendance at the larger universities were much affected.

It is interesting to note that for the past two years the program of the British Association meetings has shown indications of the war's influence. The address of the president of the Agricultural Section last year dealt with the subject of farming and food supplies in time of war, showing the share contributed by British agriculture to the national food supply, and the extent to which it had assisted in making good the lack of supplies cut off by the war. This year the presidental address before that section was by Dr. E. J. Russell, director of the Rothamsted Station, and was on the subject of The Possibilities and Prospects of Increased Food Production.

The bulk of Dr. Russell's address was devoted to a consideration of the means of increasing the yield per acre, and of reducing the cost per acre and the uncertainties of production. He pointed to certain modifications and adaptations in the interest of larger production, notably a closer coordination of crop variety, soil and climatic conditions, increased efficiency in fertilizer treatment, and improvement in the management of barnyard manure to avoid waste. He also referred to the need of agricultural education to raise the ordinary farmer to the level of the good one, to the extension of the area of land under cultivation by the reclamation of waste, and to the substitution of arable crops for grass. The manner of treatment of the subject showed a broad grasp both of the opportunities and the means of extending production; and was typical of the liberal, scholarly study which is being given the subject at this time.

The war has gone a long way to impress upon governments and the public generally the vital position which production occupies and the advantages of the new agriculture. The supreme importance of scientific research in all branches has been impressed upon the countries of Europe by the most remarkable demonstrations ever furnished. In these dem-

Good Plowing Done Here



Take a simple type of two-wheeled sulky plow like the Oliver 26, equip it with a suitable bottom, and put it into the hands of an Eastern Canadian plowman. There is an unfailing recipe for good plowing. The Oliver 26 sulky handles like a two-wheeled cart. It has a pole shift that changes instantly the landing of the beam, making it as easy as can be for the operator to straighten crooked furrows, to turn short corners or to plow side hills. The land wheel has a range of lift that insures good work on rough ground, around dead furrows, and in finishing out a land. No plow made works better on rough, uneven land or can be backed more easily. It has a horse lift that eases the work of the plowman without tiring the horses. Taking it all together, there is no handier plow than this sturdily built Oliver 26.

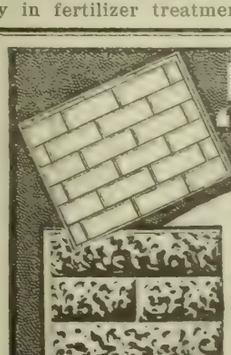
Other Oliver plows from engine and riding gangs down to walking plows, complete a line in which you can find any particular plow you may happen to need—a plow that will help your reputation as a good plowman and good farmer—at a price you can afford to pay. May we send you our folders telling all about Oliver plows for Eastern Canada? Write to the nearest branch house.

INTERNATIONAL HARVESTER COMPANY OF CANADA, Limited

Branch Houses

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask. Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.



Rock and Brick Face "METALLIC" Siding

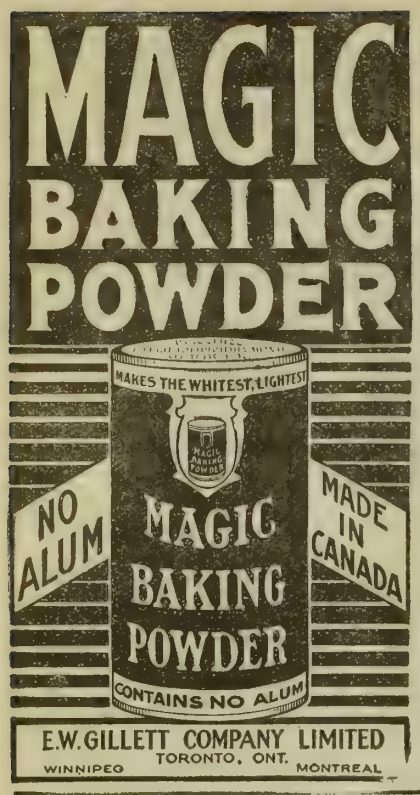
Gives an armour-clad building that defies time—weather—fire—storms.

PUT heavy, full gauge Galvanized "Metallic" Steel Siding plates on your building and you have a steel coat that simply laughs at old Father Time.

Needn't paint for years unless you want to—unlike inflammable wood that needs constant protection. "Metallic" plates are absolutely wind, snow, rain, fire and storm proof. "Metallic" patterns are many and pleasing, the Rock and Brick-face and Clapboard being the most popular. Send for price list today. We can save you money.

We also make "Eastlake" Galvanized Shingles; "Empire" Corrugated Iron "Metallic" Ceiling Plates; Ventilators; Roof-lights; Silo-roofs etc.

The Metallic Roofing Co., Limited, - Winnipeg and Toronto



onstrations and convictions the indispensableness of science to an adequate agriculture has been given a new understanding; and in the general results the institutions and working forces charged with the prosecution of science and education in agriculture have richly shared.

THE NOVA SCOTIA FRUIT GROWERS' CONVENTION

(Continued from page 200)

Rev. G. P. Raymond, Aylesford, read a paper on "Sod Culture for Our Orchards", which brought out an interesting discussion.

"Profitable Small Fruits for the Annapolis Valley," was the title of the other paper, which was read by R. D. L. Bligh, Kentville, in which he pointed out by the means of statistics the room there is for a great expansion in small fruit growing in Nova Scotia.

Resolutions of thanks for accommodations and courtesies and the singing of the National Anthem brought to a close the series of interesting and instructive meetings.

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SEND for our free trial offer, and special introductory price and catalog.

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FREE Write us, giving some idea of your spraying needs and we will forward absolutely free, a copy of our valuable illustrated work on CROP DISEASES, also full particulars of a

SPRAMOTOR

best suited to your requirements We make SPRAMOTORS from $6 up. Write us to-day.

Made in Canada
No Duty to Pay

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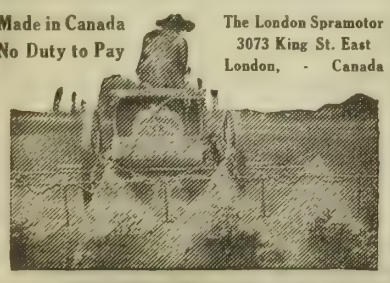


ORCHARD PLANTED ALONG ROADSIDE

Elberta peach trees will be planted along both sides of a road extending across Missouri from Kansas City to Louisiana. This new highway, with its attractive border, will be called the Elberta route. So far as it is known, this is the first time any attempt has been made to work out such an idea in this country. In Europe many of the roads are planted with fruit trees and a large part of the expense of up-keep is paid by the income from the fruit. Thus they are largely self-supporting. How well this idea will work under our different conditions is, of course, uncertain. It is an attractive scheme, and certainly is deserving of success. Some method will have to be devised for the protection and care of these trees, but according to Colonel Buffum, Missouri highway commissioner, such arrangements will be made at the next session of the legislature. These roadside trees might furnish a splendid opportunity for demonstration work under the direction of the state or government authorities. One thing is certain, at peach blossom time in the spring this road would probably have considerably more than its share of the tourist traffic. The whole thing is a big idea, and it will be watched with interest.

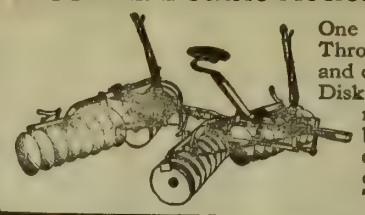
A WAR TIME N. S. A. C. SHORT COURSE

The short course conducted at the Agricultural College at Truro, N. S. from Jan. 2-11 last was the most successful in the history of the College. This course was advertised as a "war time" short course, and it was urged that farmers and their sons, who could not get away for any length of time, should make a special effort to get to the College for the two weeks course with a special view of acquiring knowledge that would enable them to grow bigger crops than ever in 1917. The appeal seemed to catch on, for altogether some where between 400 and 500 farmers attended the course, and from beginning to end the average attendance at the daily classes was something over 250. All, with the exception of ten, came from the province of Nova Scotia.

This large attendance and the enthusiasm and interest manifested during the course augers well for the continued advancement of agriculture in the province of Nova Scotia. The crop returns of the past two years have indicated a substantial increase in farm production, and it looks now as, even with the large reduction in labor, due to enlistment, the farmers of this Eastern province will still maintain, and in many cases increase the production of their farms. "Grow things" in 1917 is the forword of the Department of Agriculture, and if the season is at all promising, there is no doubt that the farmers will do their part.

One of the best sessions held during the short course was the "National Service Session." It was addressed by G. S. Campbell, Chairman for Nova Scotia of the National Service Board, and Captain Campbell, Chief Recruiting officer for District No. 6 for Nova Scotia. Both of these men laid stress first on military service for those who were fit and who could leave their homes, but they added that if a man was convinced that he could not render this form of service, then he should do "his bit" by exerting greater effort than ever to produce things. Both concluded by giving an inspiring and encouraging message to the farmers of Nova Scotia to do "their bit" by growing bigger crops than ever in 1917.

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98



T. E. BISSELL CO., LTD., Elora, Ont.

A HINT TO YOU

The following is a sample letter which the Maritime Farmer is frequently receiving from advertisers:—

Dorchester, N. B.
Jan. 17-1917.

Editor of The Maritime Farmer,
Sussex, N. B.
Dear Sir:—

Please do not let my ad appear again as all the sheep advertised are sold and still letters come pouring in.

Yours truly,
Andrew McPherson.

The Maritime Farmer is without doubt the best advertising medium in the Maritime Provinces to patronize if you have live stock of any kind to dispose of.

Get our rates for permanent breeders ad, for a breeders line, or condensed advertising.

In making arrangements to hold meetings in rural districts, those in charge should put forth a special effort to get out and develop the home talent; in other words, it pays to promote local leadership.

"Astonishing how my

Strength and Fitness

came back," says Mr. Inman, a Winnipeg business man, cured by Dr. Cassell's Tablets.

"It was astonishing how my strength and fitness came back," says **Mr. G. C. INMAN, of 330, HARCOURT STREET, STURGEON CREEK, WINNIPEG,** for many years a well-known man in the business life of Canada. Mr. Inman continues: "It is about three years now since I first used Dr. Cassell's Tablets. I was terribly run-down and weak. Sometimes I felt I should have to leave off altogether, my work was such an effort to me, I ate little, I had no appetite, and I suffered if I forced myself to eat.

"My nerves of course were in a bad way, and my sleep very disturbed. Everything, in fact, pointed to a nervous breakdown. It was then a friend told me about Dr. Cassell's Tablets, and I got some to try. The first result was that I could sleep at nights, and then my health rapidly improved. It was really astonishing how my strength and fitness came back.

Mr. G. C. Inman.

"I may add that some time ago my mother was very ill with pernicious anæmia. I urged her to take Dr. Cassell's Tablets, but she would not, so I crushed them down, and gave them in food without her knowing. She was confined to bed before she had the Tablets, and now is about again well and bright."

Mr. Inman is now in England, having had to return there some little time ago to take control of the well-known firm of A. W. Inman and Son, Printers and Publishers, Leeds. Letters will reach him there.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spaemodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1–$2–$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day.
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N S.

The Fact

That in spite of war conditions our December attendance far exceeds that of any previous year of our 49 years' history, is prized, with much gratitude, as evidence of public appreciation of work faithfully performed.

Our New Term begins Wednesday, January 3rd.

Send for Rate Card.

S. KERR
Principal

THE WINTER TERM
of the
Fredericton Business College
will open on
Monday, January 8th, 1917

Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

Address,

W. J. OSBORNE, Principal
Fredericton, N. B.

HOW ONE LIKE YOU SUCCEEDED

Sit down at my desk—we'll go over the records. Let us compare your case with boys and girls who have gone through our hands to good positions. Let us MEASURE YOU UP by them, and PROVE to you that your means of independence lies along as definite and certain a road. You will see there are dozens now in successful positions whose personal character, education and efficiency data read so MUCH like your case that they are practically identical. Write for particulars.

Moncton Business College,
Moncton, N. B.
G. J. Schmidt, Principal.

"I earn $2 a day at home"

You may say that, too – if you want more

SOLUBLE POISONS TO CONTROL THE ADULT OF THE APPLE MAGGOT.

Soluble poisons in the poisoned bait spray to control the adult of the apple maggot (Rhagaletis pomonella).—Experiments conducted during 1914 and 1915 are reported in Maine Sta. Bulletin:—

No conclusions can be drawn on the effectiveness of the poisoned bait spray from any of the experiements performed during 1914 due to the fact that the different soluble poisons scorched the leaves and therefore insoluble arsenicals were then substituted. A sreies of experiments with different amounts of soluble poisons, such as potassium and sodium arsenate and sodium arsenite, show that as small a quantity as 0.25 oz. of these insecticides dissolved in boiling water and then added to 3 gal. of water with one pint of molasses will burn the foliage of the apple trees.

"In 1915, during a very rainy season, the results obtained with three applications of the poisoned bait spray containing a soluble poison dissolved in diluted molasses (potassium arsenate .75 oz., molasses 1 pint, and water 3 gals.), showed that the infestation varied from 0 to 20 per cent in orchards situated away from the margin of the experimental area, and from 32 to 57 per cent in orchards near untreated trees. An even distribution of the droplets over the foliage is more effective than spraying the trunk, large limbs, and foliage of the lower branches. The number of applications necessary to insure good results can not be stated with this work still in its experimental stage. In orchards where tent caterpillars have practically stripped or partially defoliated the trees the poisoned bait with the use of a soluble poison can not be advocated. In orchards where tent caterpillars are controlled, defoliation caused by spray injury is far less than the damage caused by these pests in neglected orchards. Our experience shows that after fruit growers have been convinced of the results obtained by the use of the poisoned bait spray, many prefer sound fruit even if burned foliage is the necessary price.

"The fruit fly remedy has been a complete failure in the control of the pest under town conditions. With four applications of the spray the infestation varied from 4 to 98 per cent."

RID TREES OF CANKERS

Cankers on apple trees are due to various causes, such as infcetion from fungi in areas killed by pear blight, or in wounds caused by insects or other injury, and the character of the canker may be determined by sending a sample to your Experiment station.

"There's a poor choice among rotten apples," and we do not care to take our pick of cankers, for whatever their particular characteristics they are all subject to the same cure—namely, cutting off and burning of the diseased limb.

Sometimes the affected portion can not be well spared from the tree, and, when this is the case, the whole affected area should be cut out well beyond the apparently diseased portion, and the wound should be treated in the same manner as where the limb has been removed, namely, disinfected and painted, or a wound paint of coal tar and creosote oil should be applied.

HOW TO BUY TREES

When starting an orchard every grower questions what varieties he should plant. Let us advise him to use such well-known varieties as have proved suitable to the soil of his locality. If he wishes to experiment a bit, NEW varieties, somewhat apart from his commercial orchard.

It is generally cheaper and more reliable to buy your stock from an established nursery than from an agent. Even if he be an accredited representative of some good nursery, he is a middle man, and as such entitled to his percentage, but the wise farmer will not pay it to him. He will go to the nearest nursery of which he knows the reputation, or if such be lacking, he will be guided in his choice by the advertisements he sees in his fruit paper.

All farm papers now make an honest effort to carry only such advertising as is backed by reputable firms, and the farmer saves himself time, trouble and expense by making use of its columns to direct him in making his decisions.

Better Crops Result From Spraying

This K apsack is ideal for spraying small plots of potatoes, shrubs and all small fruits. It is strongly made, powerful and easily operated. We make the Spramotor in a size and style for every need—operated by hand, horse or gasoline power. Prices range from $8.00 to $400.

Made in Canada
No Duty to Pay.

Send to-day for our FREE book on Crop Diseases and Spramotor styles.

The London Spramotor,
3072 King St. East,
LONDON, - CANADA

HOGS NO HELP IN ORCHARDS

It is frequently claimed that an orchard it benefited by turning hogs into it. They eat up so much refuse, that they help to reduce the number of pests that always harbor in rotting fruit.

They do this and more. They eat the bark, and often girdle trees, thus causing their death. It is true that a hog fed on ideal rations is less apt to resort to gnawing bark, but it is a risky thing to relp upon furnishing exactly the food that will satisfy their craving for the kind of nutriment found in the bark. With hogs, as with people, there are certain individuals that have what is called a morbid appetite, and one hog with such a taste may do more harm than all the rotten fruit the whole of the rest of the bunch will eat.

All hogs rub themselves against the trees, and this also is injurious to the bark. Best get a separate pasture for your live stock or give up the idea of raising both hogs and fruit.—American Fruit Grower.

Instant Relief for
Biliousness
and other Liver Troubles

The astonishing efficacy of Dr. Cassell's Instant Relief is due to its toning effect upon the liver and bowels. It gives strength to the organs and helps them back to health and natural action. In other words it enables the system to cure itself. Don't weaken your liver with purgative pills or morning salts, don't get the salts-taking habit; let Dr. Cassell's Instant Relief bring you natural and therefore lasting cure.

Dr. CHAS. F. FORSHAW, D.Sc., F.R.M.S., a well-known British Scientist, writes:—"Never take Salines or Purgatives for Constipation—to force Bowel action is to aggravate the trouble and create the Constipation habit. I recommend as a superior and convenient treatment Dr. Cassell's Instant Relief."

Price 50 cents. from all Druggists and Storekeepers,

or direct from the Sole Agents for Canada, Harold F. Ritchie and Co., Ltd., 10, M'Caul-street, Toronto. War tax 2 cents extra.

Dr. Cassell's Instant Relief is the companion preparation to Dr. Cassell's Tablets.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, England.

Dr. Cassell's
Instant Relief
LIVER TONICS from ANTACIDS CARMINATIVES

DAIRYING.

CAPACITY AND PRODUCTION MARKS DAIRY COW'S VALUE

In these days of big things no business is looked upon as being successfully operated unless it is run to the limit of its capacity. Competition is keen in all directions and in order to meet it, with any degree of assurance the machinery of business must not be idle at any time nor yet doing only half of the work it is capable of performing. The manufacturer knows, by actual experience, that other things being equal, the larger the machine the greater will be the net profits. The reason is obvious. Invested capital in small affairs is always proportionately greater than in large ones. A great deal of time is employed in preparatory work which is no greater in large things than in small. The oversight is proportionately much greater, taking little more time in the one case than the other, while it will readily be recognized that supervision of operation is practically the same in both.

On the farm, business principles are practically the same as in other lines of trade. This does not mean that all farms should be large, nor does it mean that all lines of business should reach mammoth proportions. It means only that all lines of business, whether on the farm or in other places should be run to its fullest capacity and with the largest machinery suited to its purpose.

On many farms in Canada the principal machine is the dairy cow. From an economic standpoint, the farm should differ little from that of any other manufacturing plant. The same object should be kept in view, namely, to place upon the market a useful article that will cater to the needs of the community or country, and in no other line can the farmer better accomplish this object than in producing a wholesome article of delicious milk.

As everyone knows there is only one kind of machine for this purposefi but at the same time, there are a great variety of patterns, sizes and capacities. While one farmer or manufacturer prefers one size or pattern and another something else the thing that really counts in the end is the one that produces the most at the least cost; or in other words, the machine that turns out the greatest quantity of finished product in proportion to the amount of raw material used for that purpose. On general principles as has been noticed, other things being equal, this will be the largest animal. Experiments have shown that as a rule large cows of a shown that as a rule large cows of a given breed are more economical producers than small ones.

At the dairy test in Chicago at the World's Fair in 1903, calculating the cost of 100 lbs. of fat the result favored the heaviest cows, though the difference was small.

Prof. Brandel conducted three experiments with light and heavy dairy cows, each lasting four weeks, the second commencing seventy days after the close of the first, and the third a year after the beginning of the first. Thirty of the heaviest milkers in the herd were separated into two lots of fifteen cows each according to live weight. The cows were kept under similar conditions as to feed and care during the trial, none being bred after the beginning of the experiment. The average weight of the heavy cows was 1,205 pounds and of the light cows 979 pounds. The leading conclusions from the experiments follow:

1—The milk of the small cows was found to be richer in fat than that of the large ones.

Show Your Practical Sympathy with Slave-Raided Belgium

If ever Belgium needed sympathy—OUR sympathy—she needs it now! To the ravages of fire, sword and a savage, brutish soldiery, Germany has added deliberate, cold-blooded slave-raiding.

Over 100,000 Belgian workmen have already been snatched from their homes and taken into slavery in unknown places. The mothers, wives and children who beg for their release are driven back by the Huns in utter despair. Neutral protests have failed to change Germany's inhuman purpose, nor can the Allies free Belgian manhood until the Teutons are crushed.

But we can save the women and children through the neutral Belgian Relief Commission, which is feeding three million of them. We can express our indignation, and our sympathy with our Ally's wrongs, in a practical way, by giving more liberally than ever to the Belgian Relief Fund.

Make this a personal matter! Decide what you can afford to give, and send your subscriptions weekly, monthly or in one lump sum to Local or Provincial Committees, or

Send Cheques Payable to Treasurer **Belgian Relief Fund**

59 ST. PETER STREET, MONTREAL

The Greatest, Most Efficiently Organized Relief Work The World Has Ever Seen. 40

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

Your BOYS will not want indigestable Candies and Confections
GOOD BREAD FROM
KENT FLOUR
TAKES THEIR PLACE
BUY BY THE BAG OR BARREL
2103

$16.95 Upward ON TRIAL
American FULLY GUARANTEED CREAM SEPARATOR

A SOLID PROPOSITION to send *new*, well made, easy running, perfect skimming separator for only $16.95. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a *sanitary marvel*, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy

Monthly Payment Plan

Shipments made promptly from **Winnipeg, Man., Toronto, Ont.** and **St. John, N. B.** Whether dairy is large or small, write for handsome free catalog and easy payment plan.

AMERICAN SEPARATOR CO.
Box 3212 Bainbridge, N. Y.

"TITE WAD"
"STICKS LIKE A BULL-DOG"

THE ORIGINAL RUBBER PUTTY

Vulcanizes Without Heat.
Heat Does Not Affect It.

Don,t throw away old tires. rubber boots, raincoats or hot water bottles,—buy a tin of Tite Wad—postpaid to any part of Canada. Put up in 3 sizes; 50c, $1.00 and $1.50. Guaranteed to do what we say or money refunded. Address mail orders: EDWIN SCHOFIELD, 24-26 Dalhousie St., Toronto, Ont. Montreal Branch: 26 Victoria Sq. Stock carried by SUMMER COMPANY, Moncton, N. B.

Minard's Liniment Co., Limited.

Gentlemen,—Theodore Dorais, a customer of mine, was completely cured of rheumatism after five years of suffering, by the judicious use of MINARD'S LINIMENT.

The above facts can be verified by writing to him, to the Parish Priest or any of his neighbors.

A. COTE, Merchant.
St. Isidore, Que., 12 May, '98.

PILES CURED at HOME by NEW Absorption Method

If you suffer from bleeding, itching, blind or protruding Piles, send me your address, and I will tell you how to cure yourself at home by the new absorption treatment; and will also send some of this home treatment free for trial, with references from your own locality if requested. Immediate relief and permanent cure assured. Send no money but tell others of this offer. Write today to Mrs. M. Summers. Box P. 309 Windsor, Ont.

BUTTER PARCHMENT

per thousand lbs. live weight they eat less.

3—The small cows produced less milk than the large cows, absolutely and relatively.

4—When in thin flesh small cows may produce more per thousand pounds live weight than large cows.

5—Large farrow cows were more persistent milkers; on the other hand, small cows showed a greater tendency to fatten on the same feed, with a decrease in milk flow.

In all breeds of cattle there is, no doubt, a limit to which the size of the females may profitably be carried but at the present time where quality is not allowed to deteriorate, there seems to be little danger of overtopping the grade. Even allowing that the largest speciment of the various breeds are large enough for their particular sphere in the dairy world of today there is surely plenty of room for the medium and small animals to travel the up-grade road for several generations yet before they will reach the plane of largest yields and greatest profits.

Many, no doubt, will not care to accept the conclusions that the larger class of cows are the more economical producers; but even granting that they are equal in this respect there is yet much to be gained by improving the size of the average herd throughout the country. No well organized farm will care to invest in twenty head of cattle that will only do the work of fifteen, for even though the initial cost be no greater, there are other reasons to be considered that make it an object of considerable importance to invest in the larger cows.

One of these is the risk of loss by accident. No herd is absolutely free from danger in this regard and the relative danger, if anything, is increased with numbers, a fact too evident to need any argument. The greater the number the more crowding, slipping, hooking and other features that make for this source of loss.

Again the matter of housing is a very important matter. In a herd of twenty cows 33 1-3 per cent. more room would be required for stabling than if the herd were only fifteen in number. Therefore if the latter cost $1,500 an additional $500 would have to be expended and a yearly indemnity besides for upkeep.

In the matter of care, too, the owner of the larger cows would be in much the better position. It will be a reasonable deduction in a herd of fifteen cows instead of twenty to place the labor for this extra care at three-quarters the larger number which in the course of a year would mean a large saving in time in favor of the big cows. Then the milking alone of five cows night and morning for ten months of the year is in itself a problem of considerable importance.

Another thing greatly in favor of the large cow is the fact that she is in greater demand than her smaller sister, whether in the sale ring or the show ring, other things being equal the large cow gets the preference. Public opinion counts for a good deal. While its judgment is not always correct regarding values, there is every reason to believe that in the main it is right and at least it will always be a strong factor in the guidance of breeders to a definite line of action in supplying its needs.

In the final analysis, however, of the value of cows the capacity of the individual to consume food and give a good account of it in the pail as decided by the scales and the Babcock test will be the determining factor. There are cows and cows both in the large and small classes, and there are many surprises in individuals. The business of the dairyman is to get onto the main line of this industry where there are fewest of these.

COST What you put into a Cream Separator VALUE What you get out of your Cream Separator

It isn't the "out go" but the "income" that determines the real value of a Cream Separator

It's Cheaper to Buy a

DE LAVAL
CREAM SEPARATOR

VALUE depends upon the amount and the quality of service the article gives you—what you get out of it.

You get by far the greatest actual VALUE for your money when you buy a De Laval—BECAUSE it will give you much better and longer SERVICE than any other separator.

From the standpoint of its greater durability alone, the De Laval is the most economical cream separator to buy, and when you also take into consideration its cleaner skimming, easier running, greater capacity and less cost for repairs, the price of the "cheapest" machine on the market is most exorbitant compared with that of the De Laval.

And there is no reason why you should let its FIRST COST stand in the way either, because the De Laval may be purchased on such liberal terms that it will actually pay for itself out of its own savings.

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PURITY FLOUR

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"MORE BREAD AND BETTER BREAD"

Butter Parchment at the Farmer Office

COULD NOT SWEEP BACK WAS SO SORE.

Women are coming to understand that weak, lame and aching backs from which they suffer so much excruciating pain and agony are due to wrong action of the kidneys.

On the first sign of any weakness in the back Doan's Kidney Pills should be taken.

Mrs. L. Gonshaw, 683 Manning Ave., Toronto, Ont., writes: "I take great pleasure in writing you, stating the benefit I have received by using Doan's Kidney Pills. About three years ago I was terribly afflicted with lame back, and was so bad I could not even sweep the floor. I was advised to use Doan's Kidney Pills, and before I had used one box there was a great improvement, and my back was completely cured. I highly recommend 'Doan's' for lame back."

Doan's Kidney Pills are put up in an oblong grey box, the trade-mark is a Maple Leaf, so accept no other.

Price 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

When ordering, direct specify "Doan's."

LIVE STOCK.

THE BRROD SOW NEEDS GOOD CARE FOR BEST RESULTS

Unless this has already been done, it is not too early for those who are wintering brood sows to be putting things in order for their proper care and management. A brood-sow is not unlike other farm stock, in many particulars, and if she is worthy a place at all on the farm she should be given, at least, a reasonable chance to "make good" in her department of farm economics.

The practice on many farms is to simply breed the sow in the fall and then let her "rough it" during the winter with little food and obtaining shelter anywhere that happily she may find it. It is positively cruel, the treatment that some of these poor brutes receive and the owner of any animal should be forced to make them comfortable or have them confiscated. To say the very best that can be said of such a policy, it is not at all in the line of good business. In order for any animal to do its best it must be kept in congenial surroundings and be properly fed, and the brood-sow cannot bring forth a strong, healthy and well developed litter of pigs unless these essentials have been observed.

The first essential is a comfortable place to sleep. This need not be expensive. The main thing is to have it dry, fairly warm and free from drafts with plenty of sunlight. Dampness is the worst enemy that the pig has to contend with. They will not thrive when their quarters are damp. In order to prevent this evil, it is advisable to change the bedding frequently, no matter where it may be situated. Moisture rapidly conducts heat from the body, making an animal uncomfortable, taking more food to keep up the requirements of her system and favors the multiplication of disease germs.

The pig is practically without hair and on this account it peculiarly sensitive to cold winds and drafts. Good ventilation and sunlight is the best guarantee against disease germs that can be secured and is comparatively cheap.

Another feature that must not be overlooked in the management of the surroundings are pleasant she will move about all that is necessary, but if very cold she will likely lie in her nest too much of the time. She should therefore have a shed or pen in which to feed and exercise as well as sleep with a little hard feed scattered in the litter for which she will search and enjoy the situation.

A fairly good sleeping place may be made beside a straw stack, if no permanent place is at hand, by setting two posts a few feet away and parallel with it. To these wire a good strong fence rail. Then by taking other rails and layine one end on the stack and the other under the horizontal and wiring them to it and by covering these with a good layer of straw a warm roof may be made. One end of this pen should be closed up or built against the barn so that no draft will go through. However, there should be in addition to this a place for exercising and feeding as before mentioned. Coming from a warm nest out into a cold yard to feed or exercise is likely to induce bronchial or lung troubles and should be carefully avoided.

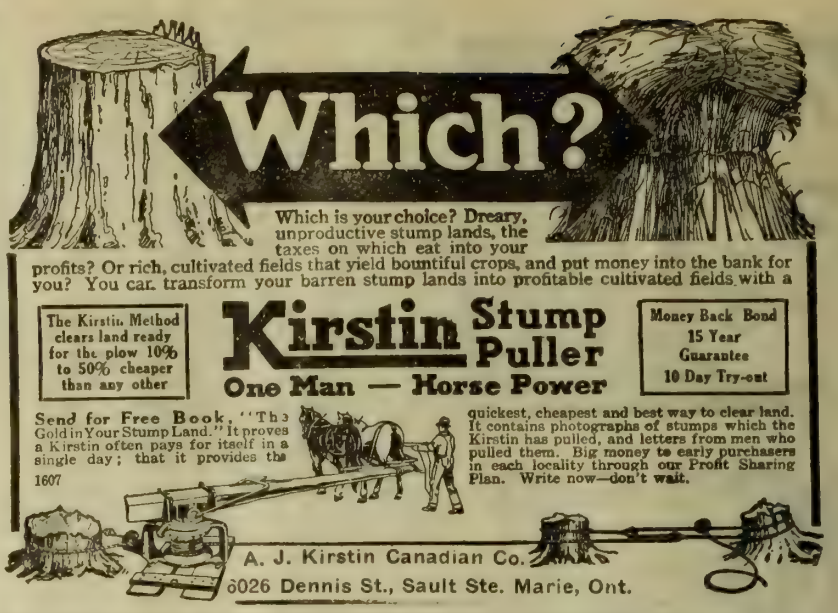
Several breeders prefer the single portable pen for brood-sows rather than several under one roof. These may be built on runners and can be moved from place to place where needed for convenience. Where this is done each sow should have from 50 to 60 square feet of floor space in the form of a square or rectangle. An A shape is a good form, easy to build and may be placed on joist laid on the runners, to which a chain can be attached for moving. If sows are allowed to farrow in them they should be built warm and have a door on hinges which can be closed in extreme weather and when the pigs are very young. With a good glass window in each end and a ventilator which may be opened and closed by a cord this will prove to be a healthful and useful method if other conditions already mentioned are observed.

The kind and quantity of food is very important. At this season of the year and under domestic conditions an animal cannot get the natural succulent foods required to keep her system in a healthy state. Hence the breeder should be careful to provide these, or otherwise digestive disorders will likely result. Too much hard grain should be avoided and the diet should be composed, in part at least, of laxative foods. For this purpose sugar beets and mangels are excellent and greatly relished by the sow if fed in a comfortable place. Corn ensilage is also good and is readily eaten and the exercise gained by the slow process of feeding of this kind of food is especially beneficial.

The quantity of food should be carefully regulated. While it is essential that the brood-sow should be in good strong condition and have plenty of flesh at farrowing time it is equally important that she should not be over fat; for in this condition she is likely to become lazy, feverish and lie down on the little ones. There is also great danger that her milk will be too rich and cause digestive troubles in the young pigs.

It too often happens that one knows enough about his business, but neglects to do the thing he knows ought to be done at just the right moment, and through this neglect the thing that in all probability would have proved a great success is doomed to failure.

There is little use of education unless the knowledge is properly applied and the details faithfully observed. Indeed, it is more often likely to lead to disaster than to subserve any good purpose unless faithfully applied to some good object for through its influences many things are undertaken which not being carried to a practical conclusion result only in loss and disappointment. And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Which is your choice? Dreary, unproductive stump lands, the taxes on which eat into your profits? Or rich, cultivated fields that yield bountiful crops, and put money into the bank for you? You can transform your barren stump lands into profitable cultivated fields with a
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IMPORTANT AND PREPOTENT BULLS

I have a pure bred Holstein bull that thus far has proven impotent. He was not used for herd service until he was a year old. He is now one year and ten months old. Is there any hope of his becoming serviceable?

H. A. G.

It is extremely unlikely that, after failing in ten month's trial in the herd to prove potent that this bull will be of any great service. At least it is not likely to pay to keep him. The best plan is to dispose of him to the butcher and to purchase in his place a sire that has proven himself a good breeder.

Hundreds of good three and four-year-old pure bred sires are regularly being sacrificed to the butchers' block for want of buyers who are willing to take them to use in other herds, and the only reason such bulls are for sale is that the owners can

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Learn How to Build a Barn Like This
Learn how to build the best barn in the county, a barn that your neighbors will envy, a barn that will look so fine that the appearance alone will add greatly to the value of your farm. Learn cheaper, better ways of framing. See how to lay the floors and foundations and how to build the walls. See how to build ventilation inlets and outlets and frame cupolas for foul air shafts.
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This book cost us thousands of dollars to print. It is the most complete book published on the subject ever offered. The information and photographs in it are worth hundreds of dollars to you if you are building or remodelling your barn. Yet we offer it free, for the coupon.
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CONSTIPATION

THE COMMONEST ILL.

Constipation is one of the commonest ills of mankind and one too often allowed to go unlooked after until some serious complication sets in.

If the bowels are properly looked after there will be no constipation, jaundice, sick or bilious headaches, heartburn, coated tongue, sour stomach, floating specks before the eyes, etc.

Milburn's Laxa-Liver Pills will keep the bowels regular and cure all liver ills.

Mr. Philip McLeod, Tarbot, N.S., writes: "I suffered from constipation ever since I can remember, and for years had pains in the left side of the back. If I walked across the kitchen floor I would have to sit down and rest. That I think was terrible for a man of 20 years of age. The condition of my system was shown by pimples breaking out on my face. I suffered so much pain and stiffness in my back I am sure my system was full of poison. Milburn's Laxa-Liver Pills have entirely cured me.

I thoroughly recommend them to everybody."

Milburn's Laxa-Liver Pills are 25c. a vial, 5 vials $1.00, at all dealers or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

no longer use them in their own herds, because the bulk of the females in their herds are daughters of these bulls.

Among the three and four-year-old bulls thus sacrificed, there have been many whose daughters afterward proved to be really great producers. However, they were gone and could not be recalled, when they might have produced equally good producing daughters in other herds, had dairy farmers in need of good bulls had the foresight to purchase them.

Bulls at the age of three and four years are usually just at the height of their breeding powers, and just why it is that farmers will not purchase them at that age, when others are no longer able to use them in their herds, for the reason already stated, is hard to understand. Such bulls it appears would prove their best prospects as sires; as they have already given evidence of their ability, which can be judged from the kind of daughters they have produced.

"STOMACH STAGGERS" IN YOUNG PIGS

I have a litter of young pigs that are subject to fits, and fall down as if dead for a minute or two. They have been that way for a week or so but none of them have died.

S. S.

Ans.—Your pigs are suffering from indigestion or "stomach staggers." Probably you have been too good to them, fed them heavily without giving the opportunity for exercise. Take the usual feed away, and give them some Epsom salts, a good teaspoonful each. Give this in a drink of skim milk. Give them no other food till they drink it. After the medicine has done its work, start feeding again gently with small quantities of their usual food; a small handful of linseed meal once a day in their usual slops of milk, etc., would be beneficial. Throw some coal or cinders into their pen and let them have plenty of roots to take the place of the summer green feed.

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

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—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
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FEEDING A PRIZE CAR OF LAMBS

The champion car load of fat lambs at the Chicago International Exposition, and which sold for 21¼c per pound, was bred by crossing on ewes registered Hampshire buck lambs three-fourths fine and one-fourth coarse; that is to say, three-fourths Merino and one-fourth Cotswold. The Butterfield Livestock Co., Weiser, Idaho, bought the lambs, which were the product of this cross, July 1, at which time they took them off the public range and put them upon their own meadow land of blue grass and alsike clover, giving them a quarter pound of oats per head daily until October 1. They were then put into sheds and the grain was gradually increased until the time of shipping. Their grain ration consisted of two parts oats, two parts chopped wheat and one part linseed cake, with alfalfa before them all the time, and at the time of shipping they were getting 2¼ lbs. per head per day of grain. During this period the lambs had a two to three hour daily run in a rape patch. They weighed at the time of shipping 119 lbs., and then had a ten day trip to Chicago.

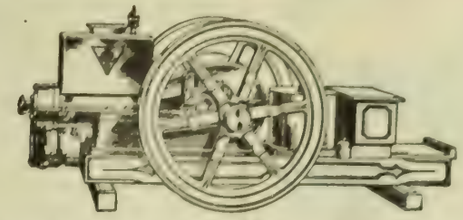
Their dressing percentage was 54.90. They were a most attractive load of lambs, as not only did their uniformity and finish stand out, but they were in true show form and were considered the best car of lambs ever exhibited at the International.

The actual financial result of the above load of lambs will, no doubt, be of interest. The cost of shipping, exhibiting and selling was within a fraction of $4.00 per head, the net selling value of the 54 lambs shown being $1,139.75, to which must be added $175 premium money, making a total of $1,139.75, to which must be added $175 premium money, making a total of $1,314.75, or the remarkable figure of $24.35 per head net.

TO HELP RELIEVE SCOURS IN CALVES

The first thing is to remove the cause and then give them lime water in the milk. Two tablespoonfuls twice a day for a calf two months old and for larger calves half a cupful. Make the lime water by putting a handful of lime into a pail of water, when it has slacked and settled, pour off the clear portion and bottle it for future use.

The general impression seems to be that in the raising of beef cattle for ordinary market purposes an animal showing the breeding characteristic to which it belongs and fed economic rations will make a profitable beef producer, but according to Prof. O. Severson of the Pennsylvania State College, this is an entirely wrong conception of raising beef at a profit, for he points out that selection in a



Think of all the work this ALPHA GAS ENGINE would save you

WITH this simple, strongly built engine you can saw wood, run a pump, cream separator, churn, washing machine, feed cutter or feed grinder, and save time and labor around your farm.

If you need a gas engine, it will pay you to buy a good one. An ALPHA costs little more to begin with than a cheap, poorly designed engine, and will quickly make up for any difference in the first cost by the longer and far more satisfactory service it will give you.

The ALPHA is simple and durable in construction and is free from any of the complicated, delicate parts that make some engines a constant source of irritation and expense. You can operate it with either gasoline or kerosene, and it will develop its full published rating with a minimum amount of either.

An ALPHA is a saving investment any way you look at it. It will save the money you now must pay out to get done work that requires power, because you can own and operate it for less than it would cost you to hire some one with an engine, and it will do quickly work you are now doing by hand and give you more time to attend to other work. The sooner you get an ALPHA, the sooner it will pay for itself.

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

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MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

PARALYSIS IN HOG

One of our hogs has lost the use of its hind parts, it lies down most of the time and moves about by dragging hind parts. The hogs are well housed and not highly fed. What can be done for this trouble?—T. B. S.

Paralysis of hind parts in hogs is quite common, especially those that are highly fed on corn and not allowed much exercise when they are getting fat. In this case I would suggest very light feed, a dose of from one to two ounces of epsom salts, and an arrangement so that he can be out of doors on fine days, and in warm house at night.

CAMPAIGN AGAINST ABORTION

The campaign against contagious abortion is on. The national dairy council, the United States department of agriculture, the state stations and dairymen's organizations are co-operating to fight this great scourge. Every individual must do his part. Write to your state experiment station to join in the systematic campaign against the disease.

Abortion is rapidly becoming the most destructive of all animal diseases. It is extremely contagious and difficult to trace. It may be brought into the herd by newly purchased animals use of an affected bull, or contact with affected animals in other ways. If your herd has escaped thus far practice every precaution as a preventive.

A cow that has a persistent cough is always regarded with suspicion, yet it is quite possible that she might not be tuberculous. For rheumatism give your cow twice a day in feed, a teaspoonful of salicylate of soda, and feed liberally with bran to keep the bowels open.

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YOUR money is mailed same day your raw furs are received at our warehouse. Absolutely fair grading guaranteed. By shipping us all your raw furs, especially wolf, you will receive the biggest profit on your whole winter's catch. Send us what you've got now—we need the skins, you need the money.

FREE Every time you send us a $20 shipment of raw furs, we will send you absolutely free, a $1.00 bottle of our Northern Brand Animal Attractor.

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A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat**, etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

THE HORSE

EASY TO TRAIN COLTS TO BECOME USEFUL HORSES

My experience has been that there is only one right way and time to begin breaking a colt, and that is before it is weaned. From that time the colt should be handled all over each day, so that it will be as natural for it to have its feet handled to have harness thrown on, and to carry things on its back as it is for it to eat.

If this method were always carefully followed there would be few kickers. In this way it is easy to accustom the colt to being led about with halter and bridle and to going fearlessly up to automobiles, engines, and everything at which it would ordinarily become scared.

When introducing a colt to any strange object, I avoid everything that could startle it, as at such moments they attribute a blow, a jerk or anything that causes them the slightest pain to the strange object of which they are more or less afraid, and from which they are expecting injury. At such times it is very easy to spoil a colt so that it will always fear that particular object. I have led colts up to objects they dreaded when their hearts were pounding not unlike a well-muffled exhaust and when even a sparrow sailing over would cause them to be wild-eyed, crouching and trembling.

At such times they need to have the greatest possible confidence in the men handling them, and if these men are of the excitable loud-mouthed, or whip-flashing variety the colts will be made worse instead of better.

I never hurry at such times. I lead the colt as near the strange object as he will go without forcing. When he stops I let him think I want him to stop, and pet him and handle him. I do anything to make him feel easy and natural; at the same time I keep working a little bit closer to the object he fears.

This requires time and patience, but is well worth the trouble if well managed, and the more often this plan is employed the less trouble you will have in getting him up to the next thing he fears.

I never strike a colt when he is frightened. I do not jerk or yell at him. The excitable, noisy man can never become a good horseman unless he first learns to control himself at all times.

Nothing is easier than to spoil a colt. Take harnessing: the quietest colt can be made to fear harness by throwing it on him roughly or if anything about the harness hurts him. The really valuable, high-strung, nervous colt is quite likely to kick the harness off. Wouldn't you? Anyway, if you had never worn anything until you were about eighteen, or proportionately as old as the three-year-old colt.

High-strung colts are more sensitive to pain than the average man or boy, and can hardly be expected to have as clear an understanding of what is required of them.

The untrained three-year-old can only be compared to an eighteen-year-old boy who has never worn clothing, never learned to talk or to understand words, and knows absolutely nothing but to eat what is given him and wish for more—if you can imagine such a case.

That is why, in teaching colts to work, there is only one method that will apply to all, and that is to have them grow up accustomed to the feel of the collar and other harness, to the commands he must understand, and to the work he must do, just as the boy is taught his A, B, C, and to play at things he will work at later.

If a boy grew to manhood with doing a stroke of work—or play-work—it would be some job to break him in. Play-work is good for either. The colt should start with a few minutes in harness and nothing to draw, and work up to drawing something very light, as a log-cabin and so on, as he grows.

He should go between thills quite young, and become so familiar with them that he does not object when they are rattled or slap his sides. Later, attach holdbacks and traces and teach him to back, turn, and hold back.

I start with one or two commands and teach him to understand and obey them; then I add one by one until he has mastered all that will be needed. I have him become fearlessly familiar with all wagons and machines about which he will work.

In breaking older colts I use the same method. It is necessary to study each animal, giving due consideration to the temperament and habits of the strain to which he belongs, particularly of his dam and sire, so as to guard against inherited faults. This method, followed with intelligence and

Flattering to the Original

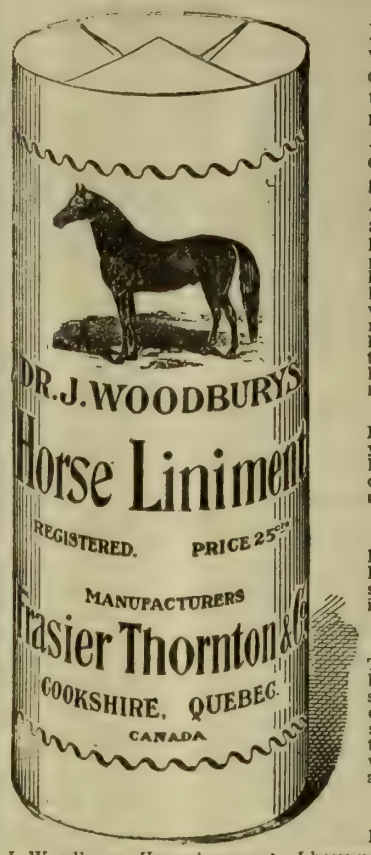
But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.

This is a facsimile of the package bearing portrait and signature

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.

Newton Lee, Owner "All Right" 5817.
Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada.

With few exceptions, bad horses are made bad by the methods used in breaking them. Usually such horses can be traced to men who will not make a study of each animal and modify methods to fit cases. Horses are like children. We must win their confidence to such a degree that they fear nothing when we are with them.

If a person permits a colt to grow up unmanageable and to develop bad traits he is not a horseman, and no amount of hints on handling horses will make one of him. It will be safer for him to turn the bad animal over to a real horseman, not a loud-voiced brag, as horsemen, like musicians, are born, not made. E. A. W.

MARE SUFFERING FROM TOOTHACHE

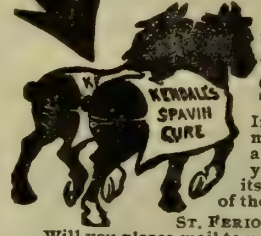
I have a four year old mare that had distemper last spring. Ever since she has been in poor condition. I am feeding her on oats and hay. She seems to have difficulty in drinking. D. O.

Ans.—We have answered, during the last two weeks, quite a number of similar questions in regard to horses, showing the same symptoms you describe. Evidently your mare is suffering from toothache and you should have hre mouth examined by a vet and he will likely have to extract the offending ones. Tooth trouble is common at your mare's age, and too little regard or care is generally meted out to the dumb animal at this stage.

The star trotter and show horse of the Maritime Provinces in 1915 and 1916, Mayor Todd 2.15½, owned by Hammond Kelly, Charlottetown, has

Be Safe!

Don't take too many chances with spavin, splint, curb, ringbone, bony growths, swellings and of lameness. Use the *old reliable* remedy—



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Will you please mail to my address a copy of your *Treatise on the Horse*. I have been using your valuable remedies for some time, and found them *safe* and reliable.
JOSEPH L. BATZINGER.

$1 a bottle—6 for $5, at druggists—or write for copy or our book "Treatise on the Horse" free.

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Does not blister or remove the hair and horse can be worked. Pleasant to use. $2.00 a bottle, delivered. Describe your case for special instructions and **Book 5 K free.**

ABSORBINE, JR., antiseptic liniment for mankind reduces Strains, Painful, Knotted, Swollen Veins, Milk Leg, Gout. Concentrated—only a few drops required at an application. Price $1 per bottle at dealers or delivered.

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Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it, request him to write us direct.

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It is quite wonderful how Veno's Lightning Cough Cure overcomes those wheezy coughs that are so troublesome. The reason is that Veno's loosens the phlegm which causes the cough, and so the sufferer gets relief at once. In Asthma also Veno's is of highest value. It gives tone and strength to the bronchial system, and helps nature to throw off the complaint. As it contains no dope, it may be taken freely during attacks. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

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POULTRY.

FITTING THE HENHOUSE UP FOR REAL PROFIT

The hens ought to have access to the entire floor of the house. Food hoppers and drinking vessels should rest on a table in the middle of the house, or on a platform that extends from the wall. If hoppers and fountains are are kept on the floor of the house the hens will soon pollute the food and water by scratching filth and litter into them.

When a platform or table is used to hold the hoppers and drinking vessels, it is an easy matter to arrange the nests under them—drawer fashion. The nests should be made to slide in and out. The back part of the drawer should be boarded up only sufficiently to hold the nesting material, leaving an opening for the hens to enter the nest. The advantages of such nests are: They take up no floor space, being under the table they are dark, and hens prefer darkened nests. They can be removed and taken out of the building for cleaning and disinfecting and the eggs are easily gathered.

Nests should never be located on the floor of the house for the reasons that they take up necessary floor-space, soon become fouled and induce the egg-eating habit. If nests are nailed to the wall, they should be provided with sloping covers, so the hens cannot roost on them at night.

Dropping-boards should be installed in all poultry houses. Dropping boards consist of a platform, a foot or so under the perches. The use of dropping-boards is to save manuse and to keep the house in a sanitary condition. The house is kept in a good sanitary condition, however, only when the boards are cleaned as often as they should be. If one cannot clean the boards at least every other day, it would be better not to have them. Hens must have fresh air, and an accumulation of poultry manure immediately under the perches will greatly debilitate the flock. The manure on the boards will also breed lice and disease germs, and will keep the air of the house damp, and thus cause colds, catarrh and roup.

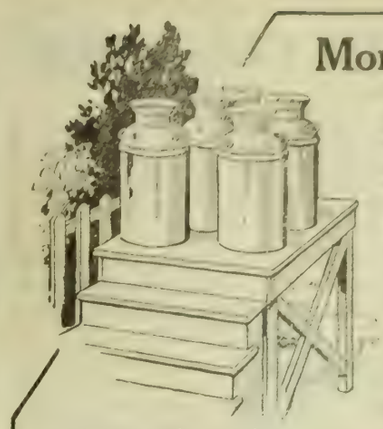
The perches ought to be at least two inches wide, so the hen will not have to cramp her toes to hold on. A popular way of arranging perches is to have them one above another—step-fashion. This arrangement is a very poor one. When such perches are used, the hens will fight for the high places, resulting in much confusion, display of temper and some falls. The perches should be arranged on a level.

Provision should be made for a dusting place for the hens. This can be done by boarding off a sunshiny corner and using the space so provided as a dusting place. If the floor is a dirt one, it will only be necessary to keep the soil well spaded and pulverized. If, however, the floor is of boards or concrete, it will be necessary to provide dusting material. Road dust is good. If a supply of this cannot be obtained, finely sifted coal-ashes will do as well. Wood-ashes should not be used in the dust-bath for the reason that the lime they contain will take the gloss from the hen's feathers.

The entire poultry-house floor, with the exception of the dusting place, should be kept bedded with litter. Exercise is essential to a good egg-yield, and unless the hens are forced to work hard for the greater part of their grain ration they will likely become lazy and fat.

T. Z. RICHEY.

To fatten poultry put them into a



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Those who use Royal Purple Stock Specific secure from 3 to 5 pounds more milk from each cow per day. Figure the increase on even a small herd. It will pay you to feed Royal Purple to your cows, and steers can be fattened a month earlier by its use.

Royal Purple Stock Specific

is a digester, tonic, an animal conditioner. It aids digestion and assimilation and enables stock to get the maximum amount of good from the food eaten. Greater gains are secured from less grain, and the cost of the Royal Purple fed isvery trifling. It will improve the condition of the worst, most run-down animal on your farm. If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Royal Purple Stock Specific is put up in 50c. packages and $1.50 and $5.00 tins.

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FREE BOOK

Write for FREE 80-page booklet on the common diseases of stock and poultry and our other products. It tells how to raise calves without milk, also how to build hen-houses.

Cases of Eggs Winter and Summer

Keep your fowl healthy, active and vigorous by feeding Royal Purple Poultry Specific in their mash, once daily, and you will certainly get eggs, winter and summer.

Mrs. W. Jackson, Saskatoon, writes: "Gentlemen,—I tried feeding your Royal Purple Poultry Specific last winter. I had fresh eggs all the time. Sold eggs from January to the 1st of March, and I know it was the Specific did it, and the hens looked healthy after using it. I started feeding them again this fall, and got eggs in less than a week."

Royal Purple Poultry Specific

Manufactured from roots, herbs, minerals, etc., is a complete substitute for the grasses, seeds, herbs and insects the hen picks up during the summer, necessary in making hens lay. Royal Purple Poultry Specific tones up the whole system, keeps the stomach and bowels right—prevents diseases such as Cholera, Roup, Rheumatism, Typhoid and kindred diseases.

Mr. J. Brandon, Ayr, writes as follows: "Dear Sirs,—Kindly send me one of your booklets. We didn't have an egg all winter until we started using your Royal Purple Poultry Specific, and it is the best thing I have ever used. We are getting eleven to twelve eggs per day now on account of feeding them the right food."

Sold in 25 and 50c. packages and large $1.50 air-tight tins. Send for our FREE 80-page book on the common diseases of stock and poultry.

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of seven parts corn meal, three parts middlings, and one part bran, with buttermilk enough to make a mixture about as thin as pancake batter. During the 10 or 14 days they are fed this ration they gain from 15 to 25% in weight and much more than that in flavor.

PICKING OUT THE BEST LAYING HENS

Picking out the hens that are actually laying from a flock of chickens is not a difficult task, accordinw to W. A. Lippincott, professor of poultry husbandry in the Kansas State Agricultural College. At or near the close of the laying season the shanks of the from the yellow shank goes into the eggs in the laying season, and the hens that have been laying well always have pale shanks. The same is true of the beak.

It is possible to tell whether or not a hen is laying at a given time by the relative position of the pelvic bones. If the two bones are close together, hard and not pliable, the hen is not laying. This is no indication, however, as to whether the hen is a good layer.

The laying hens have a decidedly feminine appearance—they show their sex plainly. Sex characteristics are likewise much in evidence in the breeding males—they are scrappers. The laying hen is the most active bird in the flock. She is the last on the perch at night and the first off in

FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

ONE GOOD TURN

By May Wilmoth

Same had been dead three days. The bed he and Jimmy had shared at Mrs. Solomon's was relet.

Sam had failed Jimmy at last. He had obeyed the summons of the grim reaper with only one regret in his toil-burdened mind; that the little waif for whom he had cared from babyhood would be left homeless. Sam's fostering of Jimmy had been an attempt to square an account that was somewhat in arrears with the world.

Jimmy's father and mother were mythical beings, who had utterly vanished with the mists of babyhood. Sam had often assured the boy that he was the gainer by the loss, a paradozical statement that Jimmy was too young to understand or to trouble about.

Thus Fate, the wanton jade, juggled with an atom and decreed that Jimmy, with his tip-tilted Irish nose, his beautiful Irish blue eyes and brown hair that waved above a broad Hibernian brow should share the bed of Sam Epstein in the flat of Mrs. Solomon, widow.

For three days Jimmy had lived upon the charity of Mrs. Solomon. But now the plain deal coffin which held the body of his benefactor was removed, and Jimmy was told "to beat it."

"I got five kids," explained Mrs. Solomon, which would seem to be explanation enough. "You gotta find woik."

Jimmy obeyed with alacrity the order to vacate. He paused upon the stairs to dry his eyes, swallowing a lump in his throat very like one of Mrs. Solomon's dumplings. But he must find work, so tears and emotional lumps must both be ignored.

Now Jimmy was only ten and the law insists that children of that tender age shall be in school. But for two days Jimmy eluded the law, personified in the statuesque "copper" Mike Flanagan, and tried hard to find work.

If he only had a little money to invest in newspapers, or to buy that little bootblacking-outfit displayed in the window of the Orchard Street shop! Such were the boy's dreams as he begged at the saloons and restaurants and shops for employment, and was nonchalantly swept away from their doors.

The first night he began housekeeping in a good-sized dry-goods box. But a street-boy much bigger than he coveted the apartment, and Jimmy perforce must find another.

The third morning after his eviction from the Solomon rooms found Jimmy seated on the curb in Orchard Street in open defiance of the law. He knew, however, that policeman Mike was at the toher end of his beat and that he had a few moments to spare. His legs were cramped and stiff, as his dry-goods box of the previous night was very small. Also, he had remained there all the morning, until driven forth by scrunching twists of hunger in his little "tummy."

The sun beat down upon his bare head; the noisome stench of the street filled his nostrils; its strident blare roared in his ears. Above his head there loomed tenements flaunting a ragged array of bedclothing and underwear from iron fire-escapes. The crowd swarmed past, a jostling pandemonium.

But none of these dissonant elements disturbed Jimmy. He was accustomed to the noise and dirt; he liked the "feel" of the multitude about him; he knew nothing of the harmonies of life. But the pains in his stomach telegraphed disturbing messages to his legs and feet.

"Right around the corner," they clicked, "in Ikey Goldberg's bakery are heaps and heaps of crusty loaves and cookies, and there are alluring berry pies, and there are dandy frosted cakes."

However, Jimmy's eyes thoughtfully contemplated a garbage can. There are nuances of respectability even in Orchard Street.

By grace of Sam Epstein, Jimmy had been respectable. He had always had a bed and three meals a day. There had been fat days and lean days, but there had always been days. It seemed now that there was to be nothing henceforth but black night in which garbage cans and dry-goods boxes were to dance a mad saturnalia.

He eyed the can and thought of Ikey Goldberg's bakery. He had been told that it was wrong to steal, but he knew that it was right to eat. What penalty would be entailed by theft he did not know.

Law meant brass buttons and a benignant smile, these supplemented by a stout locust upon occasions. It meant that in some mysterious realm there were judges, courts, jails and other effete institutions. These things were to be shunned, Jimmy had been taught.

But he did know what the sufferings of hunger were like. Between the abstract wrong and the concrete right the boy was rapidly coming to a decision.

Then, with a feeble whoop of satisfaction at a settled problem, he sprang up and faded round the corner into Rivington Street.

He found a closer contemplation of the goodies in Goldberg's bakery fully as enticing as he had anticipated. He flattened his tip-tilted nose against the glass while he shuffled from ont foot to the other. His mouth slowly watered.

He longed for a hammer. With a rousing bang he could break the window, annex the good things and skip. Lacking the hammer, he sidled along the pave and slipped unostentatiously through the bakery-door.

Jimmy had been there before many times, but he had always entered with the confident air of one who holds in dear to the heart of a boy; pennies for cream puffs or cookies or an all-day sucker. Sam Epstein had never forgotten that somewhere in his own dim past there lay a lovely dreamland, the witching interval of boyhood. Thus, Jimmy had profited by Sam's memories.

But now the hangdog air of the penniless enveloped him. The aura of his fell intentions vibrated colorfully. Instinctively he knew that he must remain and depart unnoticed. He skulked behind the broad back of an auburn-haired Jewess, edging nearer the counter.

He glanced about cautiously, then peeped at the girl behind the counter. She had just turned to make change at the cash register. Jimmy's moment had come.

From the shelter of the sturdy Hebraic back two grimy paws shot out. A crusty loaf and a juicy berry pie disappeared as if by magic.

Jimmy clasped the loaf and pie to the exterior of his anatomy preliminary to its proper distribution within. But though he had looked before and about him he had failed to look behind him.

As he wheeled to dash to the door a lean, cruel, sinewy hand grasped his shirt-sleeve, and the tender flesh beneath it, and a thick voice smote his ear:

"You liddle villain, I vil sent you to jail!"

The final word inspired Jimmy to heroic action. Faint with hunger though he was, he wriggled and tore free. Ikey caught him again; he kicked and bit and ducked. The air was filled with lamentation, Ikey mourning for his bread and pie and Jimmy clamoring for his freedom.

There came a sharp rip and a generous part of the boy's shirt was left in the Hebrew's hands, while Jimmy dashed out. Goldberg wheeled in pursuit. Down the street dashed the youngster cissely followed by the irate Jew.

Jimmy turned the corner into Orchard Street. In his mad flight he upset toddling babies and mothers joined in the chase, vociferously protesting against such treatment of their offspring. Boys and girls, just let out of school, hitched on; vagrant curs leaper and barked joyfully; sharp gongs punctuated the din. A bell in the hands of a street vendor added its note to the general discord. The owner of the bell dropped his clanging instrument, and with articles of white wearing-apparel chastely draped about his person and bellying out behind, joined in the pursuit. In point of inspiration it was not unlike the first meet of the season at the Hunt Club. There was something small and timid to chase, and sporting blood was tingling.

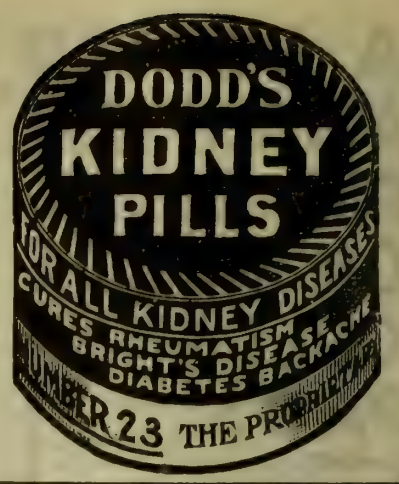
The quarry remained modestly in advance, spurred on by the vivid memory of Ikey's threat of "jail." In the beginning he left a condemning trail of circumstantial evidence in the shape of oozing berry pie spread upon the walk. For from the start he had clung to the pastry; now it clung to him. The bread, possessing less tenacity, had slipped from his arms into the street.

Panting, sweating, his little heart almost bursting, the boy dashed blindly on and plump into the grand person of Policeman Mike Flanagan. With the impact that Hibernian Hercules swore a round Celtic oath and clutched the youngstor by the shoulder.

Jimmy was surely caught "with the goods on;" in fact, very much on. So plastered and smeared was he that one might well wonder how Ikey was ever to identify his pie.

Mike gave Jimmy a vigorous shake.

"Sure, 'tis yerself, Jimmy Epstein? An' I'd niver ha' thought ut av a Irish Jew!" he commented as Gold-



"I ain't no Jew!" he yelled, truculently. "I'm as Irish as you are!" and he attested the natural aggressiveness of his race by administering to Mike an unsportsmanlike dig below the belt.

"Kape yer dirthy little paws out av me midriff or I'll brain ye wid de club!" said the policeman.

But with his last spasm of anger the boy, now dazed and scared, had mentally capitulated. The crowd cheered and jeered, but it and the gesticulating Jew and the big "copper" were lost in a mist. Jimmy's teeth chattered like the castanets of the little Spanish dancer in the dirty theater in Rivington Street.

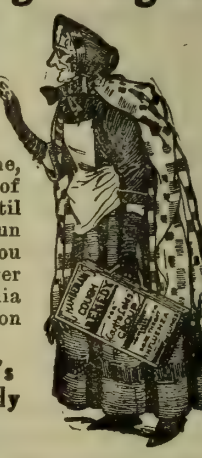
It would score one for morals to here record that Jimmy was at this moment overcome by the enormity of his sin. It must be admitted, with more or less of regret, however, that this was not so. He was overwhelmed by a greater calamity. His arms were empty ; the pie and bread were gone. The reviving virtues of the mess plastered so generously over his person had not entered his interior. He was still hungry.

And oh, how he wanted good Sam Epstein! How he wanted the hard bed they had shared together, and the indigestible messes of Mrs. Solomon's preparation! He wanted everything he had been missing these two woeful days, but paramount was the desire for Sam.

A WOMAN'S MESSAGE TO WOMEN.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations bladder weakness constipation, catarrhal conditions, pain in the sides regularly or irregularly, bloating or unnatural enlargements, sense of falling or misplacement of internal organs, nervousness, lesire to cry, palpation, hot flashes, dark rings under the eyes, or a loss of interest in life, I invite you to write and ask for my simple method of home treatment, with ten days' trial entirely free and postpaid, also references to Canadian ladies who gladly tell how they have regained health, strength, and happiness by this method. Write today. Address: Mrs. M. Summers, Box H, Windsor, Ont. Please send your photograph and signature.

Hacking Coughs



For hacking coughs —the kind that make your throat sore and your head ache, that rob you of your sleep until you are so run down that you are in danger of pneumonia or consumption —take

Chamberlain's Cough Remedy

It soothes and heals the inflamed air passages, stops the tickling in the throat, and by its tonic effects helps you to throw off the disease.

"Granny" Chamberlain

Chamberlain's is quite different from the ordinary cough medicine, for it not only soothes but also heals, restores the affected parts to a healthy condition. I believe it is the best and most reliable preparation ever produced for coughs and colds.

Yours for Health

FOR
Indigestion
and
Biliousness

Indigestion, biliousness, headaches, flatulence, pains after eating, constipation, are all common symptoms of stomach and liver troubles. And the more you neglect them the more you suffer. Take Mother Seigel's Syrup if your stomach, liver, or bowels are slightly deranged or

MOTHER
SEIGEL'S
SYRUP

have lost tone. Mother Seigel's Syrup is made from the curative extracts of certain roots, barks, and leaves, which have a remarkable tonic and strengthening effect on all the organs of digestion. The distressing symptoms of indigestion or liver troubles soon disappear under its beneficial action. Buy a bottle to-day, but be sure you get the genuine Mother Seigel's Syrup. There are many imitations, but not one that gives the same health benefits. 1015

is the
Best Remedy

NOW SOLD IN TWO SIZES ONLY.
FULL SIZE, Price 1.00 TRIAL SIZE, Price 50c

So now the grief which Jimmy had manfully suppressed found vent. His howls of despair rent the thick air of Orchard Street, and as hunger had not seriously impaired his crying the dingy thoroughfare was treated to a lachrymal sensation.

"Shut up, ye little divil;" commanded Mike, and clapped his hand over the culprit's mouth. Then he marched the youngster along by his side, the crowd following.

Through Orchard Street they trailed, this street which, like some ill-favored tramp, has so sadly belied the name bestowed upon it. But when they arrived at the Third Avenue entrance of the Child's Court the straggling procession was curtailed to the three principals.

Jimmy was hustled into a room at the side of the hall, and as a voluble melange of Yiddish and Irish American set forth his sins of commission he felt an ache in his left side. The man behind the desk glowered at him and the ache grew worse.

Nowhere was there a friendly face.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

There was nobody who could understand and extricate him from his childish difficulties; nobody to whom he could explain that the sufferings of hunger are more powerful than the fear of laws or judges or jails.

These men were not concerned with causes. Why should they be? They were paid for administering to effects. Jimmy was too young to work; he had been told so by the men to whom he had applied for it. However, it appeared that he was not too young to be starved and thrown upon the beach of society, a useless bit of wreckage.

"G'wan, take 'im right in to the judge, it's gettin' late," directed the man behind the desk. As Jimmy found himself descending narrow winding stairs, escorted by Mike, it began to seep through to his bewildered young mind that when you have once crossed the border line into the Bad Land you are due to receive very little consideration from those persons who are safely upon the other side.

He never quite knew how he got there, but presently he was standing before a big desk and Ikey Goldberg was raising a dirty paw and solemnly swearing in two languages "to tell the truth, the whole truth and nothin' but the truth." Then another freshet of mixed Yiddish and American was poured into the ears of the judge.

It is safe to say that never in the annals of the Child's Court had there entered its doors a more disreputable malcontent than Jimmy. His shirt was half torn off, his cap had been lost somewhere in the melee, and berry pie was fancifully stuccoed over him. But more serious than his sartorial disarray was the growing look of defiance that was settling over his small white face.

This Saturday was the last day of Judge Gray's three months' term in the Child's Court. For many reasons he was always glad when this task was at an end. Unlike many public servants, he found it quite impossible to deal with effects as presented to him by childish misdemeanors and was continually delving into causes. The questions of public conscience, private responsibilities and the whole brood of active impertinent interrogations tended to disturb his original optimistic belief that the trend toward ultimate good is sure.

The lower East Side shrieked aloud to him that misery, crime and disease stalked grimly everywhere for the undoing of the tiny atoms of humanity in whom should repose the wealth of the nation. He heard much fine rhetoric expended upon the conservation of natural resources, but very little scientific thought was given to the human lives for which these things were to be conserved.

A slight smile crossed Judge Gray's handsome face as he gazed down from his big chair into the pie-plastered face of Jimmy. He ignored the voluble Jew and addressed himself to the boy.

"What is your name, little man?"

The judge's voice was pleasant.

"Jimmy, sir," he faltered.

"Well, how old are you, Jimmy?"

"I'm ten, sir."

"What had you been doing that the officer should have found it necessary to bring you here? This is not a nice place for a little boy. Never mind what the man is saying; you tell me all about it. Keep still, my man," he added to Goldberg.

Jimmy heard the compassionate thrill in the judical voice; he saw a curiously tender look in the blue eyes regarding him through glistening lenses. The voice held the same note that Sam's voice used to hold for him, and the eyes held the same look that Sam's eyes had always held.

Then and there Jimmy forgot that the judge was there to punish wrongdoing. He forgot everything but his engulfing desire for comprehension and sympathy.

Breaking away from Policeman Mike's restraining hand, he flew like a small whirlwind around the side of the great desk. Straight to the judge he raced, and to the horror of the court spectators he precipitated himself nto the judical lap, hiding his dirty, tear-stained, frightened face against the lawgiver's breast.

Uniformed persons hastened forward to remove him. The judge waved them away. For the first time in the annals of any courtroom, crime explained itself while literally seated in the lap of justce.

"Mister," sobbed Jimmy, "Sam died, an' I didn't have no money, an' I couldn't find no work, an' I had an awful pain in my insides 'cause I hadn't had nothin' to eat in two days, an' I was awful hungry, an'—"

Jimmy faltered, then everything turned misty and faded quite away. There was a great roaring in his ears; then came darkness and silence.

When he opened his eyes he thought he had died and gone to heaven. He opened out his legs and arms, then drew a hand carefully out from under the covers. He held it up; it was clean! He gazed at the covers and sheets; clean, too! He passed a hand over his face that felt clean, and he was clad in a clean little nightshirt!

He glanced around the room. It was very small but sweet with the fragrance of roses. There was a large bouquet of them in a squatty vase upon the little table at the head of his bed.

At the opposite side of the room a door stood ajar. As the boy watched, still thinking of himself in heaven, the door swung noiselessly open and a little girl entered, clad all in shimmering white. He regarded her wonderingly as an angel; he had seen one like her once on a Christmas-card at the mission. But instead of the conventional harp, this more utilitarian angel bore in her hands a prosaic tray which she placed upon a table in the center of the room.

She approached the bed, and Jimmy's eyes flared into hers as she bent over him.

"Oh!" she cried, happily; "I'm so glad you're awake! Miss Granger is

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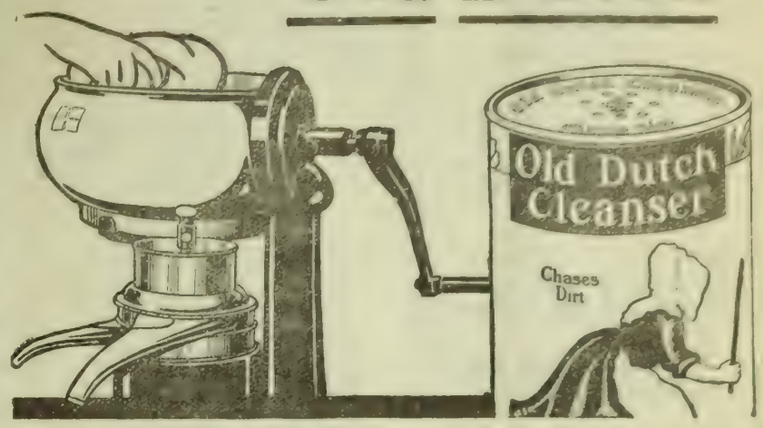

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coming in to give you some chicken broth and some chicken, too."

The boy thrust forth a thin brown hand.

"Ain't this heaven?" he questioned timidly. "You're an angel, ain't you?"

The little maid dimpled and shook her long golden curls.

"No, I'm not an angel. I have flare-ups. This isn't heaven. It's only Miss Granger's room. She's the Child's Court matron. I'm Judge Gray's little girl. I'm waiting for my papa."

Just then Miss Granger entered. She looked not at all matronly. She was of medium height, slender without thinness, and she possessed much fluffy golden-brown hair under which a piquant face looked out rather wistfully upon the world. Her colouring was creamy with delicate highlights of faint pomegranate in her cheeks.

Miss Granger was the only mitigating circumstance of Judge Gray's term in the Child's Court. When he looked across the big room and saw her, serious-eyed and sympathetic, taking charge of his poor, soiled little miscreants, the judical heart under the black robe would throb warmly, and the judical pulses would quicken their dignified rhythm. And these symptoms would produce a well defined primitive desire to carry this wildrose creature away to his uptown lair, and keep her there always, as a mother for Elsie, and a companion for his own lonely life.

This desire the judge had upon an occasion imparted to Miss Granger. But as her home was also uptown, and she had departed therefrom because of her desire to be in closer touch with the sore spots of the city, she had refused the judge's plea. Her heart, she told him, lay in the chosen work of helping humanity.

Miss Granger sat down beside Jimmy, while Elsie perched upon the bed and interestedly watched him absorb nourishing broth and delicate bits of chicken. He soon owned that he felt almost as good as new.

During the feast Jimmy gathered that after he had fainted the judge directed his removal by a policeman to the room he now occupied, and that they had found it difficult to force medicine and nourishment between his poor blue lips.

Just then came a knock at the door. At a nod from Miss Granger Elsie ran to open it.

"Daddy!" she cried, dancing up and down while her curls jigged merrily, "Jimmy is better; aren't you glad?"

"First names already?" he smiled, as she caught his hands and dragged him across the room to the bedside.

Judge Gray bent over the bed and took the boy's thin hand in his, and looked at Miss Granger. For some reason the faint banner in her cheeks turned to the deep red of the heart of the pomegranate.

"Well, Miss Granger," inquired the judicial visitor, "what are we going to do with this young man?"

"Until he is stronger I can occupy my sitting-room. I couldn't think of turning the poor little mite out."

The lawgiver laid the boy's hand gently upon the coverlet and walked around the foot of the bed, pausing by the girl's side.

"Your heart seems kind to all the world but me," he murmured very low, so that the children, who had entered into a conversation, could not hear.

"Don't!" The young woman's voice broke a little. "I do not mean to be unkind. But a woman must remain where her heart is."

The jurist's acknowledged controversial powers were stilled by the sweet reasonableness of the answer. A woman must naturally remain where her heart is, he mentally admitted, though the concession was accompanied with a deep regret that her affections could not have been slightly more concentrated.

(Continued next issue)

MISS' AND SMALL WOMAN'S DRESS.

By Anabel Worthington.

The practical application of fashion tendencies makes this a worthy design in a dress for misses and small women. It is more than passingly smart, yet designed after the manner of the gracefully simple frock that has so many followers.

The treatment of the waist fronts—extending in tab effect, crossing and buttoning at the waistline—is new and novel. Because a rather low V neck results from the surplice closing of the waist, a shield or vestee of lace, silk or other material is desirable for filling in below the line of the collar. The button decoration of the waist at this point is noticeably neat. The fulness of a long sleeve is drawn in at the wrist, where a band cuff of material finishes. The collar is of satin and the girdle or belt is of matching material.

The two gore gathered skirt has its attraction in being plaited at centre front with some panel suggestion. The modern maiden or small woman may have a delightfully smart dress made after this pattern in duvetyn, prunella cloth, checked serge or the like trimmed with black satin and at slight cost. Its development is the simplest of tasks.

The pattern of dress, No. 8,074, cuts in sizes 14 to 20 years. To make in size 16 requires 5⅛ yards of 36 inch material, ½ yard of 36 inch satin and ⅜ yard of 12 inch lace for vestee.

To obtain the pattern, send to the office of this publication.

LADY'S FOUR GORE SKIRT.

By Anabel Worthington.

The choice of the right style of skirt to wear with a favorite blouse will often give the effect of an attractive costume that one may wear to a matinee or lunch party with a sense of relief that she is following the mode. In the illustration is shown a garment that may grace such occasion if developed in one of the fashionable materials of the season.

If you like their dressy effect you will add the side peplums to the skirt; with them one may even transform a last year's model, but the style stays though they be omitted. The garment is cut in four gores, has left side front closing and full length panel front and back. To show Fashion's fancy, the skirt may be trimmed with braid, beading or fringe. The lower edge in size 24 waist measure requires 3⅝ yards.

Serge is good for wear with a wash silk waist for practical wear; duvetyn with a voile waist, broadcloth with a net or crêpe de Chine blouse, and there may be considered also for developing this design gabardine, satin, mohair and tweed. The illustrated instructions are so clear that you may be sure of an exact duplicate and you will have a smart looking and stylish skirt at a very small cost by being your own seamstress.

The pattern of skirt No. 8,091 cuts in sizes 24 to 30. To make in size 24 requires 4 yards of 44 inch material, allowing for peplums, and 4½ yards braid; 3⅝ yards 44 inch goods without peplums.

To obtain the pattern, send to the office of this publication.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

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Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

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ADDRESS OF MR. T. W. CALDWELL, PRESIDENT OF THE NEW BRUNSWICK POTATO GROWERS' ASSOCIATION AT THE ANNUAL CONVENTION AND POTATO SHOW HELD AT WOODSTOCK, DEC. 27TH AND 28TH, 1916.

Ladies and Gentlemen:—

As we, the potato growers of New Brunswick are assembled here in convention for the second time, it might be well for us to review some of the reasons why we are here to-day.

In the first place I think you will all agree with me that the potato crop is the most important crop raised in New Brunswick to-day. It is also a crop that we get more money per acre invested in the raising of, than any other crop we grow and it therefore behooves us to consider well the best methods of tillage, seed selection, fertilizing, cultivation, spraying, grading, and last, but not least, marketing this most important crop.

I feel that we have been fortunate in being able to secure speakers who can speak with authority on these different subjects, and I wish to impress upon you the fact that you cannot afford to miss any of the sessions of this convention.

Before I go any further, I think it would not be amiss for me to say that I feel that we, the potato growers of New Brunswick, owe a debt of gratitude, aye, more than gratitude, to Professor G. C. Cunningham the Dominion Plant Pathologist for New Brunswick, who was instrumental in calling the Potato Growers' Convention which met here in March last, who was the prime mover in forming the New Brunswick Potato Growers' Association and who, as Secretary of this Association has been so indefatigable in his efforts to assist the potato growers of this Province. I also feel that we are to be congratulated on having such an eminent authority on plant diseases as Professor Cunningham to co-operate with us in this most important work.

And right here let me say that the New Brunswick Potato Growers' Association was not formed for the purpose of trying to induce the farmers of New Brunswick to plant more potatoes. I will read from the constitution and bye-laws, the clauses which set forth the aims of the Association, so that there may be no misunderstanding with regard to this matter:—

CONSTITUTION AND BYE-LAWS

Article I. Name.

The name of this organization shall be "The New Brunswick Potato Growers' Association."

Article 2. Object.

This Association has been organized to promote the interests of the potato industry in the Province of New Brunswick. It shall be the object of the Association to assist in the dissemination of knowledge on methods of cultivation, suitable varieties, seed improvement, grading and standardizing, marketing, eradicating and controlling fungus and insect diseases, and other allied subjects.

(1) By collecting and disseminating the best available information relating to both the practical and scientific phases involved, in increased yields, coupled with a lessened cost.

(2) By encouraging proper cultural practices in relation to the maintenance of soil fertility through the proper use of fertilizers and by promoting the introduction of modern potato machinery.

(3) By encouraging the cultivation of pure varieties of potatoes for all commercial purposes.

(4) By giving special attention to seed improvement, to the dissemination of standard commercial varieties and by encouraging the elimination of undesirable commercial types.

(5) By encouraging the community plan of raising desirable varieties, (one or two varieties to a community).

(6) By encouraging the grading, standardizing and certification of table and seed potatoes.

(7) By investigating the demands of all available markets and assisting New Brunswick growers to meet such markets.

(8) By assisting in controlling and eliminating fungus and insect pests, and in preventing the introduction of new diseases.

(9) By investigating methods for the profitable utilization of surplus and cull potatoes.

With regard to the work the Association has been able to accomplish during the summer:—

There were test plots of potatoes planted at Grand Falls, Andover, Florenceville, Centreville, Hartland, Woodstock, Keswick, Fredericton Junction, Chatham and there was also a test plot of New Brunswick potatoes planted at Kentville, N. S. In these ten test seed plots were planted 114 different samples of Green Mountains and 37 of Irish Cobblers, the results of which we will give you later and which I believe will demonstrate the fact that there is more in the matter of seed selection than the ordinary potato grower has any idea of.

We also did considerable field inspection during the summer and are following that up with a cellar inspection of the same lots that were inspected in the field, so as to be able to put in touch with those who wish to secure pure seed, those who have it.

Before I sit down I wish in the name of the Potato Growers' Association to

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"Beaver" Flour is as uniform in quality as a minted five dollar gold piece.

Its proportions are as accurately fixed, and as scientifically determined.

The wheats used in milling "Beaver" Flour are analyzed—and the percentages of gluten, starch etc. are found by chemical tests.

We know—

from years and years of experience—just how much western spring wheat to add to the choicest Ontario winter wheat—to obtain the desired strength.

BEAVER FLOUR

Equally good for Bread and Pastry. *Milled of Blended Wheat.*

This is why "Beaver" Flour always gives good results—why it requires less shortening—why everything you make with it has a flavour that you cannot get with western spring wheat flours. Try "Beaver" Flour yourself for both Pastry and Bread—you'll find it equally good for either, and best for both. Remember, to insist on having "Beaver" Flour—the original blended wheat flour.

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When The Children Rush In From School,

and shout for "something to eat", cut off generous slices of bread and spread with

CROWN BRAND CORN SYRUP

"Twill be the children's daily treat. So good for them, too—wonderfully nourishing, to build up their little bodies and help to keep them well and strong, as wholesome food should.

The most delicious of table syrups for Griddle Cakes, Waffles and Hot Biscuits. Excellent for Cake and especially for Candy making.

In 2, 5, 10 and 20 pound tins—and 3 pound "Perfect Seal" Glass Jars. At all grocers. Our new recipe book, "Desserts and Candies" shows the new and right way to make a lot of good things. Write for a copy to our Montreal Office. It's free.

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Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

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thank the New Brunswick Potato Shippers' Exchange for their very generous donation of $300.00 for prizes for the potato exhibit which we are holding n connection with this convention, and also for their offer of $200.00 more for prizes n the field crop competition which we expect to conduct next summer.

Regarding the potato show which as I have said we have been able to put on largely through the generosity of the potato shippers exchange:—Owing to the fact that this Association is only yet in its infancy, and that a large number of the potato growers of New Brunswick have not had an opportunity to join the Association, we have not limited this show to the members of the Association, but have made it free to anyone in New Brunswick who grows potatoes, but I believe that in time to come our potato shows and field crop competitions, conducted under the management of the Potato Growers' Association, should be open only to the members of this Association.

Now, this may look a bit narrow at first sight, but I do not believe it is as I consider it is to the interest of every man in New Brunswick who grows potatoes, to join this Association, for by so doing he will not only help along the work the Association is endeavoring to do, but he will also put himself in a position to reap the benefits of the work being done by this Association, and as the membership fee is only $1.00, it is not beyond the reach of any. I hope every man who attends this Convention will see his way clear to have his name put on the membership list and hand his dollar to the Treasurer.

There is one thing more I would like to say regarding the Potato Show.

You will notice on your programmes that the Dominion Experimental Farm at Fredericton is exhibiting 60 different varieties of potatoes at this show, and also, samples of potatoes for distribution by the Dominion Experimental Farms are on exhibition. Neither of these lots will compete for any of the prizes offered at this potato show.

While the Government is not putting up any of the prize money, nor has anything to do with the management of this Association, nor would there be anything to legally debar them, yet the Government nor their Experimental Farms never compete for any of the prizes offered at any of the agricultural exhibitions or field crop competitions; these exhibits are put on by them as an educational feature of the show.

And just here let me say that I do not believe that we as farmers are availing ourselves as we should of the opportunity to obtain the information which the Experimental Farms are in a position to give us on our different farm problems.

They are now sending out application blanks and asking the farmers to fill them in and return them, asking for the publications dealing with the particular subject that they are interested in. This is an opportunity that I feel we should not neglect.

With reference to the field crop competition of potatoes which the Association will conduct next summer:—We have not got the details of this worked out yet, but as it will be some time before this will come off, there will be ample notice given. In this connection I wish to thank the different commercial agencies who have so generously offered to put up their money for prizes for this competition. The names of the different commercial agencies and the amounts are as follows:—

The Colonial Fertilizer Co., Windsor, N. S. $100.00.

The Dominion Fertilizer Co., St. Stephen, N. B. $100.00.

The American Agricultural Chemical Co., Boston, Mass., U. S. A. $100.00.

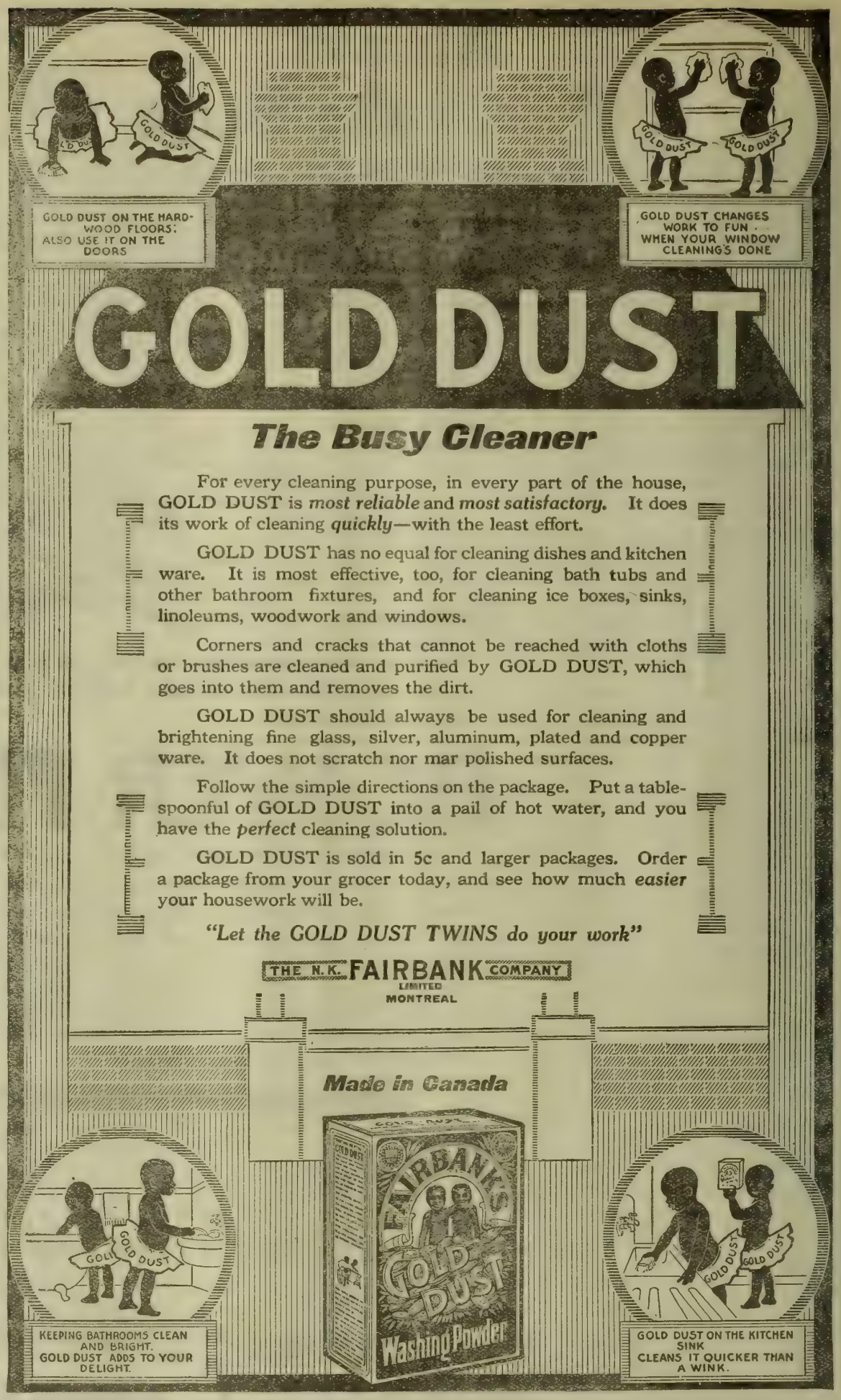
and I have no doubt that the other commercial agencies doing business in New Brunswick will be only too glad to contribute something towards making this field crop competition a success

---

Press comments continue to come to hand which indicate that the New Brunswick Department of Agriculture made no mistake in obtaining the services of Prof. J. W. Mitchell. The Manitoba correspondent for "Hoard's Dairyman," an influential agricultural journal published in the United States, makes the following statement concering Professor Mitchell:

"The retirement of Professor Mitchell from the position of Superintendent of dairying for the province of Manitoba is very discouraging to the dairy industry of the province. A survey of the development of this industry during the tenure of his office indicates somewhat of his ability, but what indicates most emphatically that he should not be lost is the remarkable improvement in the quality of the dairy products of the province of Manitoba and their gaining popularity in outside markets, and also that he has earned the enmity of unscrupulous milk and cream shippers through his endeavor to enforce the provincial act referring to shipping of milk and cream, and in his endeavor to improve the quality of dairy products."

About the time this issue is off the press the Nova Scotia Farmers' Association is opening its twenty-first annual convention in Amherst. We trust you are planning to attend. A full report will appear in our next issue.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GOLD DUST
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For every cleaning purpose, in every part of the house, GOLD DUST is most reliable and most satisfactory. It does its work of cleaning quickly—with the least effort.
GOLD DUST has no equal for cleaning dishes and kitchen ware. It is most effective, too, for cleaning bath tubs and other bathroom fixtures, and for cleaning ice boxes, sinks, linoleums, woodwork and windows.
Corners and cracks that cannot be reached with cloths or brushes are cleaned and purified by GOLD DUST, which goes into them and removes the dirt.
GOLD DUST should always be used for cleaning and brightening fine glass, silver, aluminum, plated and copper ware. It does not scratch nor mar polished surfaces.
Follow the simple directions on the package. Put a tablespoonful of GOLD DUST into a pail of hot water, and you have the perfect cleaning solution.
GOLD DUST is sold in 5c and larger packages. Order a package from your grocer today, and see how much easier your housework will be.
"Let the GOLD DUST TWINS do your work"
THE N.K. FAIRBANK COMPANY
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Made in Canada
FAIRBANKS GOLD DUST Washing Powder
KEEPING BATHROOMS CLEAN AND BRIGHT. GOLD DUST ADDS TO YOUR DELIGHT.
GOLD DUST ON THE KITCHEN SINK CLEANS IT QUICKER THAN A WINK.

TEACHER'S WINTER SHORT COURSE IN NATURE STUDY AND ELEMENTARY AGRICULTURE

During the week Jan. 8th-13th, the N. B. Department of Agriculture, through the Division of Elementary Agricultural Education, conducted courses at two schools for the purpose of aiding the rural school teachers to intelligently interpret and teach the perscribed nature study course for the province. These courses were held in the two agricultural schools of the province, one at the Fisher Vocational School, Woodstock and the other at the Agricultural School, Sussex. Both of these buildings are thoroughly equipped for modern agricultural instruction and the staff of instructors at each school was made up of agricultural men who were acquainted with the needs of the province along the line of more practical training in the rural schools.

The Department of Education cooperated with the Department of Agriculture and made it possible for rural school teachers to attend these courses without losing part of their grant for the terms work. This coupled with the fact that the teacher's transportation charges were paid by the Department of Agriculture, made it very easy for rural teachers to attend one or the other of these schools.

A total of one hundred and twenty-one school teachers registered at Sussex and Woodstock. Thirteen out of the fifteen counties of the province were represented. These teachers for the greater part, came from rural schools and came because they desired help in their nature study teaching. Classes in Methods of Teaching, Horticulture, Nature Study, Seeds, Soils and Agricultural Chemistry, provided ample instruction on all phases of the perscribed course. Each instructor had as his aim the teaching of the "nature study spirit" and the method of "learning through doing" and while a week is a short time in which to accomplish any lasting results, it is surprising the amount of new spirit which these teachers take back to their schools at the first of their winter course.

It is hoped that these winter courses will be a means of introducing to the teacher the great educational possibilities which lie in the school garden and the great out-of-doors about them.

SHORT COURSES AT SUSSEX

We have just received a copy of the proposed programme for the Farmers' Short Course at the Agricultural School, Sussex, N. B., on February 5th to 9th. It reads as follows:—

Monday, February 5th—3.00-3.50, Roots and Corn, O. C. Hicks; 4.00-4.50, Summer Feeding of Dairy Cows, W. W. Hubbard; 7.30, Chairman, Mayor McKenna. Addresses by Hon. J. A. Murray, Minister of Agriculture, Prof. M. Cumming, Principal, Nova Scotia Agricultural College, Truro.

Tuesday, February 6th—9.00-9.50, Cow Testing and Breeding, H. N. Flewelling; 10.00-10.50, Breeding Dairy Cows, Rearing the Calf and Training the Heifer, W. W. Baird; 1.30-3.00, Judging Swine, W. W. Baird; 3.00-4.30, Cereals and Seed Judging, O. C. Hicks.

Wednesday, Feebruary 7th—9.00-9.50, Swine Feeding and Breeding, W. W. Baird; 10.00-10.50, Care of Milk and Cream, J. W. Mitchell; 11.00-12.00, Development of the Sheep Industry, W. W. Baird; 1.30-3.00, Judging Dairy Cows, W. W. Hubbard; 3.00-4.30, Poultry,—Fattening and Killing, Seth Jones.

Thursday, February 8th—9.00-9.50, Crop Rotation, W. W. Hubbard; 10.00-10.50, Clovers and Grains, O. C. Hicks; 11.00-12.00, Creaming of Milk and Operation of Cream Separators, Dairy Staff; 2.00-3.30, Butter-making on the Farm and Demonstration in Butter-making, Dairy Staff; 3.00-4.30, Potato Growing, G. G. Cunningham; 7.30, Beef Production. Illustrated by Lantern Slides, W. W. Hubbard. Horticulture. Apple Growing. Illustrated by Lantern Slides, A. G. Turney.

Friday, February 9th—9.00-9.55, Horticulture. Apple Growing. Illustrated by Lantern Slides, A. G. Turney; 10.00-10.55, Manures and Fertilizers, H. B. Durost; 11.00-12.00, Potato Diseases, G. C. Cunningham; 1.30-3.00, Breeding. Care and Feeding or Egg Production, Seth Jones.

The only expenses you will incur are for board and your Railway Fare at reduced rate. Purchase a single First-class Ticket and secure a Standard Certificate from the Ticket Agent.

Railway Fares amounting to $2.00 or over will be refunded by the Department of Agriculture.

Ladies are cordially invited to attend lectures and take any portion of the course in which they are interested.

Make it a point to attend the course throughout, if at all possible. If you cannot do this, do the next best thing, attend as much as you possibly can.

Cheese and Butter Makers' Course

A short Course for Cheese-makers and Creamery Butter-makers will open at the Provincial Dairy School, Sussex, on Monday, February 12th, and close on Wednesday, February 21st.

A conference of makers and officers of factories will be held at the school on Tuesday and Wednesday, February 20th and 21st.

It will pay you well to attend these courses. Send the boys and girls.

The Three Functions of the Liver

1. It manufactures the bile essential in the process of digestion.
2. The starch and sugars derived from the food are stored in the liver and sent to the tissues as needed.
3. It detects and destroys poisons.

Dire Results of Overeating

From the standpoint of health man's cardinal sin is overeating.

The digestive system can look after a certain amount of food, but when continually crowded the food mass is delayed in the ailmentary canal and what is not digested ferments.

In other words, this food spoils or rots, and poisonous bacteria are given off.

It is the duty of the liver to destroy these poisons. It usually succeeds, but after a time it tires, increases in size from overwork, and finally fails.

What Failure of the Liver Means

The poisons then hurry through the liver and into other organs or tissues.

Then you have torpid liver, indigestion, headaches, bad breath, bilious spells and irregular action of the bowels.

This condition is described as auto-intoxication, or self-poisoning by food.

Cirrhosis of the liver follows. Complications set in. Bright's disease, hardening of the arteries, apoplexy are natural developments.

But these conditions do not come on you suddenly. You have months or years of warning.

How to Get the Liver Right

The thing to do is to keep the liver active and the bowels regular by use of such treatment as Dr. Chase's Kidney-Liver Pills, and you will then run no risk of such serious developments.

This medicine acts directly and specifically on the liver. By promptly awakening the sluggish action of this all-important organ a good flow of bile is ensured. This is poured into the intestines, where it acts as Nature's cathartic in keeping the bowels regular.

Prevent Host of Ills

Such a multitude of ills arise from sluggish action of the liver, kidneys and bowels that Dr. Chase's Kidney-Liver Pills are considered a household necessity wherever their merits are known.

By all means regulate your diet to your needs.

Then remember that when your liver does get wrong and threatens to upset the whole digestive system Dr. Chase's Kidney-Liver Pills will afford quick relief and prevent all serious complications.

One pill a dose. 25 cents a box.

Dr. A. W. Chase's Kidney-Liver Pills

LAST CALL TO THE NEW BRUNSWICK FARMERS' AND DAIRYMEN'S ASSOCIATION

The annual meeting of the New Brunswick Farmers' and Dairymen's Association will be held in the city of Fredericton on January 29th to February 2nd.

Every farmer in New Brunswick should be interested in this Annual Meeting.

This year the programme embraces subjects of vital importance and interest to New Brunswick farmers; and some of Canada's leading agrciulturists will be on hand to lead in the discussions on Dairying, Swine, Sheep and Poultry Raising; Cattle and Horses, Potato and Root Growing.

Wednesday is "Seed Fair Day" and a profitable discussion on the importance of good seed will occupy the morning and afternoon sessions.

The Normal School Gymnasium, where the Fair will be held, is splendidly suited for the purpose, being always heated, well lighted and roomy.

Prize Lists have already been sent out by the Department of Agriculture, and there is no reason why this should not be the biggest Seed Fair ever held in New Brunswick. I would urge all farmers to send a sample bushel of something.—TRY IT THIS YEAR.

Friday will be spent at the Experimental Farm where demonstrations and lectures will be given on Horses, Cattle, Etc.

Plan to spend the week in Fredericton and thus help—by your attendance and assistance in the discussions—to make this the biggest, most enthusiastic and most profitable meeting ever held.

The Executive would like to see 1000 members! Will you assist by securing two or three new members in your neighborhood?

PUT UP YOUR OWN ICE

An easily available watter supply and a little ingenuity are the requirements for producing ice on farms at small cost, according to Dr. J. D. Walters, professor of architecture in the Kansas Agricultural College.

"The ice making apparatus is simple and may be procured for a small sum," says Doctor Walters. "Tanks for freezing ice are usually made of galvanized iron, and should be large enough to hold at least 12½ cubic feet of water.

"An ice cake weighing about 120 pounds measures approximately 10 by 18 by 20 inches. This is a well proportioned cake, and one that is easily handled and packed. By using a tank with a capacity of 12½ cubic feet, it is possible to freeze six cakes of these dimensions at one time. If more ice is required it is but a matter of extending the freezing process to supply the demand.

"Two tanks are arranged, one inside the other, in such a manner as to leave a free space of about one-half inch between the two. Both tanks should be slightly larger at the top than at the bottom, so that in the freezing of the water, there will be no danger of their bursting. In order to make a division in the ice cakes, the inner tank is divided into six compartments by galvanized iron strips.

"This double tank is placed near the well or spring, where the compartments can be easily filled with water. In cold weather the water will freeze in a few hours, since the tanks are exposed on all sides. This ice should be dumped immediately after it is frozen solid. To remove the ice cakes, warm water is poured into the narrow space between the two tanks. Within a minute the sides will be sufficiently loosened so that upon the upsetting of the receptacle, the cakes will slide out.

"Fourteen freezings will make more than five tons of pure, clean ice, or enough to last an ordinary family a year. This estimate allows for an average daily consumption of 20 pounds, winter and summer, and also a liberal amount for melting. Figured at sixty cents a hundred pounds, this will represent a value of $60. The tanks and the necessary ice closet that has to be provided in the corner of the cellar, together with a load of sawdust or straw for packing, should cost considerably less than this sum." —Cold.

Refreshing Tea

In any season—Summer or Winter—there is nothing more enjoyable than a delicious cup of tea. The flavor must be *"just right,"* though, and that's where KING COLE TEA excels.

"You'll like the flavor"

THE DANGEROUS BARN LANTERN

Many farmers now have the convenience of carbide and electric lighting systems but there are still many of us who are compelled to do our chores morning and evening, during the winter, by the light of the barn lantern. But there is considerable danger of carelessness and consequent fire from the use of lanterns. Quite frequently we hear that Mr. A's barn burned last night because a lantern tipped over and caught in the hay. It stands us in hand to be careful and safeguard as far as possible for, "an ounce of prevention is worth a pound of cure."

In the stable a wire may be stretched with hooks fastened upon it and the lantern hung up out of the way. A nail driven into a joist answers the purpose, while in other places a bracket made from a piece of No. 8 or 9 wire is more convenient. Much danger is accompanied by taking a lantern into a hay lofe and then setting it on a beam or upon the hay. Better have a hook and hang it up. A small awning pulley fastened to a rafter and a clothesline run through it may be used in some cases to hoist a lantern to the peak of the barn, thus lighting the entire loft. However, it is held that there is much less danger from a lantern that is hanging up so it is time well spent to put a hook, bracket or nail wherever needed for the lantern.

THE ANCESTRY OF THE GOOSE

The ordinary breeds of demesticated geese are the slightly modified descendants of the grey lag goose (Anser anser L.) which is still found wild throughout northern Asia, although nearly extinct in Europe. It had already been domesticated at the most remote period of civilization. There appears to be in Anser anser and its tame descendants, as well as in the Chinese species (Cygnopsis cygnoides), a strong tendency to the production of white mutants and from these the white variety of both species has been created. As a rule, the changes due to domestication (waddling walk, lessened ability to fly and deeper rump) are those that would naturally be produced by selection of specimens possessing the best marketable form

The American Standard of Perfection recognises the following breeds

A MESSAGE TO WOMEN!!

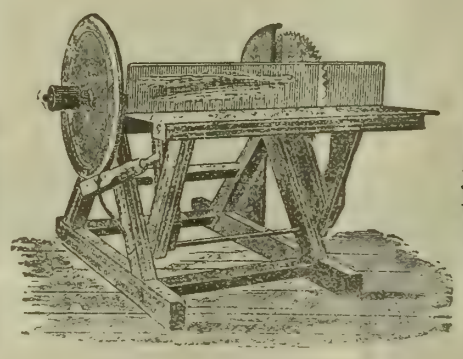
LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire palpitation, hot flashes, dar under the eyes, or a loss of interest in life, write to me to-day. Address:

Mrs. M. Summers, Box 309 Windsor, Ont.

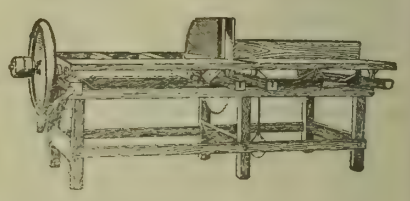
Sussex Wood Cutters Cut Expenses

Consult Our Quality Line Before Buying



Short Swing Wood Cutter

Wood Cutter Saws guaranteed at the right price. All sizes. Prompt delivery.



Flat Roller Table.

CONVENIENCE ECONOMY DURABILITY

are the three money-making qualities embodied in our Wood Cutting Machines. No frail parts to give out in a season's use. Built to last a life time. Frame is made of well seasoned birch, bolted and mortised; table of heavy steel plating in one piece.

Swing Table Machines built on skids, bearings supplied with compression greese cups. Especially adapted for use with gasoline engines. Made in four styles—Long Swing, Long Swing Improved, Short Swing, Flat Table.

Ask for our Catalogue and Prices, it will pay you.

Remember we also manufacture Trenholm Gear Hay Presses, Grain Grinders, Root Pulpers, Feed Boilers, etc.

The Sussex Manufacturing Company, Limited, Sussex. N. B.

What They Did For One Family

DODD'S KIDNEY PILLS CURED WHERE DOCTORS FAILED

Mr. and Mrs. Sawyer, After Years of Suffering, Found the Remedy They Sought in Dodd's Kidney Pills.

Capreol, Ont. Special.)—Firm believers in Dodd's Kidney Pills are Mr. and Mrs. Adolphe Sawyer, of this place. They have their reasons and are quite willing to make them public.

"I was a complete wreck when I started to take Dodd's Kidney Pills," Mr. Sawyer says. "I had suffered for ten years. I tried five doctors altogether. Some said it was rheumatism. Others called it lumbago, but none could give me any permanent relief. Dodd's Kidney Pills made a new man of me.

"My wife got the same good results from them. She also had been to several doctors. A specialist from Sault Ste. Marie advised her to stay in bed for a month. But she tried Dodd's Kidney Pills instead with splendid results.

"Do you wonder that we both praise Dodd's Kidney Pills? No one can speak too highly of them."

Dodd's Kidney Pills are purely and simply a kidney remedy. If the disease is of the kidneys or from the kidneys they will cure it.

90-Acre Farm, $1,300

Stock, Tools, Stock Included

Widower sacrifices his desirable, profitable farm near large R. R. town; shoe shop, creamery, canning factories, etc., house of 5 rooms; good barn for 6 cows; large poultry house; splendid trout brook; mail delivered, telephone; several hundred cords wood can be sold at $5 cord with only 2 mile haul; smooth, machine-worked fields for potatoes, and 5 acres potatoes nearby sold for $1,300 last year. Owner has lost wife and makes low price $1,300, part down. If taken now he throws in 4 heifers, cow, hens, hay, potatoes, vegetables, wagon, harnesses, machinery and tools For travelling instructions see page 3, "Peace and Plenty Catalogues," copy mailed free.—E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

E. L. Colpitts, Petitcodiac, N.B.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 16 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

SEAMAN and STEWART OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

of geese: Toulouse (gray), Embden (white), African (gray), Chinese (both brown and white varieties), Wild or Canadian (gray) and Egyptian (coloured). Of these the "Toulouse" seems to have been produced in France, its plumage much resembles that of A. anser but the colour pattern is simpler. The "Embden" has been obtained by North German breeders in and around Westphalia by selecting white "sports" and breeding from them. The history of the "African" breed is somewhat uncertain. It is said to be a cross between the Chinese goose, the Toulouse breed and sometimes the Embden. The fleshy protuberance on the beak is characteristic of domesticated forms of the Chinese species, also the black stripe down the back of the neck, while the plumage resembles to some extent that of the Toulouse goose. The 3 above-mentioned breeds are heavy weight or market varieties, weighing frim 17 to 25 lb. when properly fattened.

The Egyptian breed comes from an entirely different species (Chenalopex aegyptiacus) which has been of much importance to the domestic economy of Egypt ever since the beginning of history.

The Canadian goose is the domesticated wild goose of North America (Branta Canadensis). It is easily tamed, but has little commercial importance as a domesticated breed. The Chinese goose (Cygnopis cygnoides) lays well and furnishes a good quality of meat; it is the largest of all wild geese and weighs from 10 to 14 lbs. It is yearly becoming more popular in the United States and deserves to be widely kept. All these species can be interbred freely in captivity.

KEEP FEWER HORSES

In these days of efficiency and economy, it is highly important that every man should do everything possible to reduce the total number of horses it is necessary to keep and to increase the ways of finding profitable employment for them. The idle horse is a border and an expense. Keep him busy. Live stock that will produce meat, milk or eggs in return for the feed eaten can be kept profitably employed the year around, while with horses there are times when they must of necessity stand idle.

... ERGOT IN RYE POISONOUS ...

Ergot, sometimes called spurred or horned rye, is caused by a fungus that replaces the kernel with a kernel-shaped body one-half to one inch in length and of a purplish color. Ergot bodies also form on some of the wild grasses as the rye grasses, wheat grasses, blue joint and reed grass.

The poisonous character of ergot is principally due to its exciting influence on the muscle fibers of the uterus and amsller arteries. As a result of the former, conraction of the uterus results, which, in pregnant animals results in the expulsion of the foetus, abortion. The latter action causes the contraction of the walls of the tissue feeding arteries, which prevents the passage of the volume of blood required for the nourishment of the tissues. Tissue thus deprived of blood, dies, and in such cases we speak of gangrene. This usually happens to the extremities, as the lower part of legs, tail, ears, or teats in cattle; and the comb, wattle, toes, wings, or tongue of poultry. Ergotpoisoned animals show weakness, dullness, and paralytic conditions of some muscles.

To eradicate ergot, do not sow rye infested with it, and land that has grown a crop of rye infested with ergot should have some other crop on it for two or three years. It is best to follow the rye with a cultivated crop. In case a grain crop follows, volunteer rye usually comes up and the ergot is given a chance to increase.

Don't depend upon the wine bottle to get your business. The ink bottle is a better producer.—Hoeflich Printing House.

COMING EVENTS

New Brunswick Farmers' and Dairymen's Association begins January 29, 1917, and New Brunswick Provincial Seed Fair, Fredericton, N. B., January 31, 1917.

Butter and cheese makers courses at the N. S. A. C., Truro, March 7 to April 4, 1917.

STRAWBERRIES

It is not too early to think about this years strawberry acre. We can supply plants from all the varieties most profitable in the Maritime Provinces. Our new Catalogue, out this month, tells all about them. eLet us send it to you; learn about the fall bearing strawberries, they are a real success.

CYRUS & MANNING ELLS,
Port Williams, N. S.

OUR MOTTO:

"ONLY GOOD GOODS"

And We Live Up To It Continually

QUALITY Counts, Certainly

You who are looking for a CHEAP but SERVICEABLE STOVE (whether it's a Cook-Stove or a Heater) ought to be interested in the line we manufacture in Fredericton:—

"NIAGARA" Cook Stove, 2 sizes. Wood or Coal.
"WATERLOO" Cook Stove, 2 sizes. Wood.
"FAVORITE" Cook Stove, 2 sizes. Wood.
"CARLETON" Hall Stove, 3 sizes. Wood.
"TIDY" and "SQUAT" Coal Heaters. ("TIDY" in 3 sizes.)
"RAMDOWN" Stove for camp use. 3 sizes.

These are PLAIN stoves, prices ranging from $10.00 to $16.00, but they will DO THE WORK satisfactorily. Ornamentation does not help a great deal in WARMING the house on a winter day.

No particular quality of WOOD required. Good bakers. Good heaters.

IN FREDERICTON we also make WOOD FURNACES, as well as Lumbering Machinery, Builders' and Contractors' Supplies, Stove Utensils, IRON FORGINGS, IRON and BRASS CASTINGS, ETC., ETC.

The Smith Foundry Company, Limited,
FREDERICTON - - N. B.

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Butter Parchment

Revised Price List

We Prepay all postage to your home address

1000 1 lb. Printed, - -	$4.00
500 1 lb. Printed, - -	$3.00
1000 Printed, 2 lb. - -	$5.00
500 Printed, 2 lb. - -	$4.00
500 2 lb. Choice Dairy Butter,	$2.00
500 1 lb. Plain - -	1.20

Parchment marked "Choice Dairy Butter" 250 sheets, 75c; 500 Sheets for $1.45, Postage Paid.

The Maritime Farmer
SUSSEX, N. B.

COSSAR STOCK FARM,
Lower Gagetown, N. B.

Importers and Breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep. A number of choicely bred animals for sale.

Q. C. COSSAR, Prop. J. MEIKLEJOHN, Agent.

Elmhurst Stock Farm!

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N. S.

SHORTHORN CATTLE

Our present offering is a number of of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

J. E. HETHERINGTON
Codys, N. B.

Guernseys!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE
Great Village, N.S.

Registered Stock for Sale

Guernsey and Ayrshires Bulls, ranging from nine months to eighteen months old.

Guernsey and Ayrshire New Milch Cows. Also Young Calves of both breeds. Last but not least, Registered Shropshire Ram Lambs. The above will be shown at Shubenacadie District Exhibition.

John McDonald & Son
Shubenacadie, N. S. - Bloomfield Farm

Bargains in Ayrshires.

Owing to having a large milk contract to fill, I find it necessary to dispose of young stock and offer: One Bull Calf, dropped Dec. 10th, dam qualified in the R. O. P. test as a two-year-old, with 8,880 lbs. milk and 363 lbs. butter fat, also Heifer Calves from dams now under test. All sired by Spring Bank Roger, his dam having qualified in R. O. P. with 11,365 lbs. milk, 511 lbs. butter fat, as a four-year-old.

T. J. HAWKINS,
Stewacke, N. S.

RIVERVIEW STOCK FARM

Holstein Cattle, Yorkshire and White Chester Swine.

Write us for prices, and breeding of bulls ready for service. Have some nice boars for sale, also Sows ready to breed. The right type and prices right.

D. R. NICHOLSON, - Coxheath, N. S.

Eggs for Hatching from Exhibition Matings

Barred Rocks Pullet Mating Strain.
Yard 1—Headed by Hector, imported from Grove Hill, mated to him are 1, 2, 3 pullet, 3rd hen at Amherst Winter Show, 1, 2 pullet, 2, 3 hen at Kentville.

Barred Rock Cockerel Mating Strain.
Yard 2—Headed by Bradley II, 1st cockerel at Amherst, mated to him are three daughters of Bradley I and three pullets in 1st Kentville pen.

White Wyandottes.
Yard 3—Headed by White Bird, 1st Amherst cockerel, mated to 1, 3, 4, 5 hen and 3rd Amherst pen and 1st Kentville pullet.

Blue Orpingtons
Yard 4—Headed by Blue Boy, 2nd Amherst cock, mated to 2, 3 hen and three hens in 2nd Kentville pen.

Single Comb R. I. Reds.
Yard 5—Headed by Kentville Boy, 1st Amherst cockerel and 1st at Halifax, Yarmouth, Kentville, mated to 1st Kentville pen hens, 1st pullet and 1st hen Amherst, 1914.

Our Rocks won Silver Cup for best display in open class, 1916

Eggs from these pens $2.00 per 13.

KENTVILLE POULTRY YARDS,
KENTVILLE, N. S.

FOR SALE
R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

Lawndale Stock Farm
Jerseys and Shorthorns

Present Offering in Jerseys:

One Grade Jersey Heifer, dropped Feb. 22nd, 1915, bred to our herd bull, "Ol Ferns Lad, 3269. She is due to calve next summer and is large and handsome. Sired by double grandson of "Champ. Flying Fox."

In Shorthorns We Offer:

One all red Bull Calf, dropped in Nov. 1916. Sired by first prize winner in his class Halifax Exhibition, 1915.

One all red Bull, dropped May, 1915, very large and handsome of proven worth in service.

One roan Heifer, dropped Dec. 3rd, 1915, out of a grand milking mother and sired by "Stately Monarch." Grand champion Halifax and Charlottetown, 1916.

One all red Heifer Calf, dropped Aug. 27th, 1916, out of a splendid prize winning mother and also sired by "Stately Monarch," as above.

Write for information.

I. M. LOVITT, M. D.,
Yarmouth North, - Nova Scotia

"Homestead Farm"

Holstein-Friesian Cattle
Clydesdale Horses
Shropshire Sheep
Berkshire Pigs

Our present offering is three bulls, fit for service. They are all good individuals and have good official backing. Can part with a few heifers ready to freshen next fall; also some bull calves. Our Berkshires are about all sold and we are now booking orders for ram lambs for fall delivery. Write for description and prices.

Long Distance 'Phone.
LOGAN BROS., Amherst, N. S.

GUERNSEY BULLS!

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA.

Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding The Farmers Most Profitable Cow should be sent to the Secretary of the Association

W. A. CLEMONS, St. George, Ont.

SPRINGVALE HERD

Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS
AMHERST, N. S.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Merce es," No. 11727, the sire of our 26.54 lb. Jr. 3 year old nd who so far has not tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particu ars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Springbrook Ayrshires!

Present offering several choice Cows and Heifers, all ages, and Bulls ranging from 6 to 17 months, sired by our imported prize winner, Grange Kelly, and out of some of the best cows we ever owned. We have also two choice Bulls, about 15 months old, sired by Springbrook White King. We can also sell some nice grade Ayrshire Cows, fresh or about to freshen.

Write us your needs in the Ayrshire line—we have started many young breeders on the right track and have replenished the herds of some of the older breeders. We can supply your wants.

See our herd at the Halifax Exhibition or better still come to see our herd in home quarters. Interested parties always welcome.

McINTYRE BROS.
SUSSEX, N. B.

Advertise in the Maritime Farmer.

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

Don't forget while looking at the winners, that there are plenty of the old sort at Bellevue. They are not staying home from choice. Let us quote you prices on stuff that can win in herd and showing. Shorthorn cattle, Shropshire sheep and several heavy horses for sale at right prices.

C. A. ARCHIBALD, - Clifton, N. S.

NETHERLAND FARM, Hammond River, N. B.
HOLSTEIN CATTLE AND YORKSHIRE SWINE

WM. S. HARDING, PROP.

We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Foforit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

ATTENTION.—We can supply anything you want in Holsteins, young Bulls from 1 to 15 months old, Cows and Heifers, fresh or to freshen soon, yearling Heifers or Heifer Calves. We intend showing at the Amherst Winter Fair and will be pleased to meet our old customers and anyone interested in Holsteins there. Write your wants to

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

Prssent offering: A Bull Calf from a dam with official record of 20.64 lbs. Butter in 7 days as a 2-year-old; also Heifer Calf whose dam and grand-dam aver[illegible]5 lbs. Butter in 7 days—grand-dam is "Daisy Posch," who holds fourth best 30-day Canadian record as a four-year-old. Other choice stock for sale. Write for prices.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM
Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

FARMS FOR SALE

Send for FREE Catalogue; with descriptions and prices of over 1000 farms in Nova Scotia.

McCALLUMS LIMITED,
"The Real Estate Men"
Truro, - Nova Scotia

Chester White Pigs For Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

FOR SALE!

A number of Cockerels from best laying strain S. C. Rhode Island Reds, White Leghorns and Barred Rocks. One Rhode Island Red and one White Wyandotte Cock birds. One pure bred Holstein Bull Calf, 8 months old also one pure bred Holstein Cow and several pure bred Oxford Down Ram Lambs.

N. W. EVELEIGH
"The Orchards" Sussex, N. B.

FOR SALE

5 Trios of S. C. R. I. Reds at $5.00 per trio. These are good colored birds. 1 two year old cock bird, R. C. R. I. 2 two year old cock birds, S. C. R. I. Red.

Write for prices and particulars,
W. H. HENRY, Shubenacadie, N. S.

FOR SALE

Two pure bred Clydesdale Stallions, 7 and 2 years old. Shorthorn Bull, 5 years old, imported from Ontario. Write us for full particulars.

MORRIS SCOVIL & SONS,
Meadowlands, Gagetown, N. B.

Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,
33 Jubilee Road, HALIFAX, N. S.

HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast males. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order.

W. J. M. MacLEOD, Sussex, N. B.

ELMHURST FARM

Present offering of choice litters of pure-bred Berkshire pigs, ready for delivery. Also some choice Buff Orpingtons.

R. R. BLACK,
Proprietor.
Oxford Junction, N. S.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, FEBRUARY 6, 1917. Number 9.

Some Results From Spraying Work of 1916 and Recommended for 1917

By C. E. Saunders

Field Officer in Charge Dominion Entomological Laboratory, Annapolis Royal, Nova Scotia

The value of spraying was demonstrated in 1916 in fully as striking a manner as in the previous seasons of 1915, 1914 and 1913. On account of the "Pit" (probably an arrested development of the black rot fungus, **Sphaeropsis malorum**) developing to such a degree and the people on the whole being more keenly on the watch for differences between sprayed and unsprayed orchards, I believe that there has been more talk about the benefits of spraying and more people converted to the fact that they cannot afford not to spray, in 1916, than ever before in a single season in the Annapolis Valley.

The apple crop of 1916 was very uneven and on the whole short. The reason for this was the small bloom in the spring of 1916 and the main reason for that, not the only one, but the main one,was lack of thorough spraying in 1915. The amount of bloom is influence by the leaves being retained on the trees late in the previous autumn. The retaining of the leaves depends to a certain extent on the cultivation and fertilizer, particularly nitrogenous fertilizer, but it depends more than anything else, on thorough spraying, which keeps the blackspot off the leaves.

In 1915 we sprayed an orchard in Annapolis, an orchard of about three acres that had not given over 25 barrels per year for the four years previous and in 1914 gave only 15 barrels. The year we sprayed it, 1915, it gave 85 barrels. In 1916 it was not sprayed but it gave 160 barrels, showing that in this orchard, as in many others, the spraying of the season of 1915 influenced the crop of 1916 more than it did the crop of 1915.

The failure of most orchards in 1916 was due to lack of spray, care of fertilizer the previous year, more often the lack of spray than anything else.

One thing that the season of 1916 has demonstrated more clearly to me than anything else is the fact that there are practically no off years in the well cared for orchards in the Annapolis Valley. Men like Ray Clarke, A. S. Banks and F. H. Johnson have had less variation in their apple crops year by year, for the past seven years, than there has been in the corresponding wheat crop of the West. I will venture to say that each one of them is reasonably sure of getting within 20 per cent of his 1916 crop in 1917, no matter how unfavourable the season of 1917 may be. In this they are simply judging the future by the past. They have never had a failure since they started spraying properly and correspondingly never a bumper crop, but a succession of even crops. If you talk to any one of them in regard to what they consider the most important operation on their farms they will tell you it is spraying. If it were a question of having to stop spraying or stop all other orchard operations they would not stop the spraying.

I mention these men simply because I know their methods and records. There are hundreds more like them in the valley or we would have had a shorter crop than we did in 1916, as the crop was, for the most part, in orchards that had a record of two or more years of good care, and that was the reason for it being on the whole of such remarkably high quality. The non-sprayers did not have any apples to get spotted.

With spraying the most important operation in the Annapolis Valley and with the materials used sometimes causing trouble and sometimes appearing wasteful, we have found it necessary to take up the study of spraying material very carefully and after two years of work have recommended the somewhat drastic changes indicated in the circular on, "Spraying for Insects in the Apple Orchards of Nova Scotia," with which I hope you are all supplied.

The contrast shown in the orchard of Mr. G. L. Thomson of Berwick in 1915 and in two of our experimental orchards, coupled with the statements of many of the most responsible growers, convinced us that the lime sulphur and arsenate of lead combination was doing, in some cases, an immense amount of damage by causing the set of apples to drop and showed us the necessity of investigating fully some of the most common spray mixtures with regard, not only to their cost and efficiency in controlling pests, but also with regard to their effect on the crop of fruit.

To test some of these points a small, even, orchard of Wagner apple trees was secured from Mr. F. H. Johnson of Bridgetown and a portion of the trees were sprayed once before and twice after the blossoms with the following solutions and gave the following results:

No. of apples picked from two small Wagner trees sprayed with varying strengths of lime and sulphur.

Lime Sulphur.	Dry acid arsenate of lead, 1 lb. to 40 gal.	Dry arsenate of lime ¾ lb. to 40 gals.
1.004 sp. gr. or 1 to 75	212	122
1.005 1 to 60	86	126
1.006 1 to 50	159	125
1.007 1 to 43	27	152
1.008 1 to 37½	33	56
1.009 1 to 33	1	44
1.010 1 to 30	5	36

Unsprayed trees averaged 277 apples per pair.

This set of trees showed us that lime and sulphur 1 to 43 and stronger, with lead arsenate, would burn the apples enough to cause severe dropping and that lime and sulphur 1 to 37½ and stronger, with arsenate of lime would also cause the same injury. Where arsenate of lime was used it caused less burning and less dropping of the fruit than where arsenate of lead was used with the same strength of lime and sulphur.

In conjunction with this test we tried out both Bordeaux mixture and lime and sulphur to find out at what period the lime and sulphur did the most burning and the most removing of the apples and also to see if there was a period at which Bordeaux mixture did less damage than the lime and sulphur. The following are the results.

No. of apples per pair off Wagner apple trees when sprayed at the following period with the following solutions.

	Lime Sulphur 1.009 spgr. Dry acid lead arsenate 1 lb to 40 gals	Bordeaux 4-4-40 Dry acid lead arsenate 1 lb to 40 gals
Immediately before the blossoms only	159	327
Immediately after the blossoms only	108	204
Two weeks after the blossoms only	30	231

Unsprayed trees averaged 277 apples per pair.

Percentage of russetting when Bordeaux was used

Immediately before the blossoms only, 7 per cent russetted.

Immediately after the blossoms only, 43.6 per cent russetted.

Two weeks after the blossoms only, 3 per cent russetted.

These figures show, as the orchard of Mr. G. L. Thomson showed, that the greatest damage comes from the use of strong lime and sulphur two weeks or more after the blossoms and it also shows, as Mr. Thomson's showed, that Bordeaux used two weeks after the blossoms is harmless in so far as removing the set is concerned.

In regard to the russetting which comes from the use of Bordeaux mixture, the experiment corroborates the statement of Mr. U. P. Hedrick in Bull. No. 287 of the New York Agr. Expt. Sta., in which he states, "From the study of the matter at this station it does not seem possible that Bordeaux injury occurs on apples after the hairs have been shed, the stomata changed to lenticles and the waxy coating formed". He further states "That the period of immunity begins with Baldwins and Rhode Island Greenings in from four to six weeks after the blossoms drop. It may be assumed that the time for these changes must vary greatly with the season and possibly with the variety."

It also corroborates the statement of Prof. W. J. Morse of the Maine Agr. Expt. Station in Bull. 252 in which he states, "Again as in 1914 an application of 3-3-50 (wine gallons) Bordeaux mixture on plot 4 before the flower buds opened resulted in leaf injury and increased fruit russetting—the amount of russetted fruit as compared with the check was increased about 9 per cent."

Our experiments in regard to the russetting caused by Bordeaux, although conducted on a small scale, are thus corroborated by the work of two of the best spray men in the United States, and may be taken as approximately correct. We do not claim that Bordeaux will give absolutely no russetting two weeks after the blossoms, but we do claim that it will cause less injury than any other equally efficient spray used at that period.

When we had finished our work in Mr. Johnson's orchard and had decided that, in view of the price of spraying materials at the present time, it would be best to recommend lime and sulphur weaker than formerly for the first three sprays and a weak Bordeaux for the last summer spray, it was found that Mr. Wheelock Marshall of Beaconsfield had practically followed this plan, spraying once before the blossoms with a 1 to 50 lime sulphur solution, once after the blossoms with a 1 to 60 lime and sulphur solution and two weeks after the blossoms with a 6-6-100 Bordeaux mixture.

While Mr. Marshall's orchard did not have a crop throughout, owing to a small bloom, he had the best foliage and the best fruit that I have

seen this year. There was no russeting of the apples and no burning of the leaves that could be attributed to the spray. His Gravensteins ran 99 per cent free from blackspot.

Spraying Recommendation for 1917.

In the face of this evidence and more, which we have not published, Prof. Brittain and I in making up our joint spray calendar have recommended

..**For the First Spray.**—Lime Sulphur 3 to 100 and arsenate of lime 2 lbs. to 100 gals.

Second Spray.—Lime Sulphur 2 1-3 to 100 and arsenate of lime 2 lbs. to 100 gals.

Third Spray.—Lime Sulphur 2 to 100 and arsenate of lime 1½ lbs. to 100 gals.

Fourth Spray.—First Choice. Bordeaux mixture 7-7-100, using either arsenate of lime or arsenate of lead as a poison.

Second Choice. Lime Sulphur 1 2-3 lbs. to 100 and arsenate of lime 1¼ lbs. to 100 gals.

Fifth Spray.—Where necessary, the same in material at the fourth.

These recommendations are made in full in the circular, "Spraying for Insects Affecting Apple Orchards in Nova Scotia", which is here for distribution if you have not already received a copy. We are recommending the same nozzles, the same pressure and the same dates as last year. We are recommending a weaker solution of lime and sulphur and where possible the substitution of Bordeaux mixture for lime and sulphur for the last summer spray. We are recommending arsenate of lime in place of arsenate of lead in all lime and sulphur solutions. Which poison to use with Bordeaux mixture is a matter of choice.

Now in regard to substituting arsenate of lime for arsenate of lead. First; arsenic, in the form of arsenate of lime, will cost less than 70 per cent of what arsenic will cost in the form of arsenate of lead in the Annapolis Valley during the coming season. Second; as shown in the results on young Wagners in the orchard of F. H. Johnson, given earlier in the paper, arsenate of lime does less damage than arsenate of lead with an equal strength of lime sulphur. When we add arsenate of lead to lime sulphur solution a chemical change takes place resulting in the formation of lead sulphide and three kinds of arsenate of lime, one of them, mono calcic arsenate, is entirely soluble and is the cause of a large portion of the burning which comes from the use of lead arsenate and lime sulphur together.

When arsenate of lime is added to lime sulphur no chemical change takes place and so no soluble arsenic is formed. Arsenate of lime both theoretically and practically is safer than arsenate of lead with lime sulphur.

Third; arsenate of lime causes less waste when added to lime sulphur solution than arsenate of lead. When arsenate of lime is added no chemical change takes place but when arsenate of lead is added nearly all the lead goes to the bottom of the tank as lead sulphide percipitate or "sludge", taking with it 35 per cent of the sulphur from solution and it is on this sulphur that the solution depends for its fungicidal value. The lead arsenate causes the loss of more than one third of it. Further the lead sulphide sludge prevents proper agitation and so causes much poison that should go on the trees to be retained in the bottom of the spray tank. Fourth; arsenate of lime is cheapest in its most convenient form, namely the powder. Arsenate of lead is cheapest in the paste form. The fact that the arsenate of lime comes as a powder not only saves time in the field but it makes the measuring of the poison at once easier and more accurate.

In using arsenate of lime one should always remember that it must never be used alone. When used with lime sulphur, soluble sulphur or B. T. S. it is safter than arsenate of lead, while with Bordeaux mixture it seems equally safe, but when used alone it will cause severe burning. For use alone arsenate of lead is by far the better poison.

One of the most common sources of trouble in spraying in the Annapolis Valley today is the fact that often the fruitgrower does not realize the difference between the wine gallon and the imperial gallon. The owner is perhaps told by the agent that his tank holds 200 gallons. So it does, but they are wine gallons. It only holds 160 imperial gallons. Then he takes an imperial gallon measure and measures out his lime sulphur, thinking that he has a 200 imperial gallon tank. The result is that his solution is 25 per cent too strong. Then when he has burned his trees he blames the recommendations or the hired man, when it was ignorance of the size of his tank that caused the trouble. At the beginning of the season measure your tank with the same measure as you use for measuring your lime and sulphur and there will be less trouble with the spray burning.

In applying the spray be careful not to use the drive nozzles for the spray after the blossoms. Before the blossoms they are almost indispensable in the control of budmoth, aphis and plant bug, but unless plant bug is present after the blossoms do not use the drive, use the calyx nozzle. It will cover a tree faster and better and there is less danger from spray injury with it than with the coarse driving spray produced by the drive nozzle.

Poisons For Canker Worms And Tussock Moth

The canker worms and tussock moths are two periodical insects that will probably be common enough to cause serious damage next year.

First to deal with the canker worm. As you know it is one of the hardest insects to control with poison. I have heard many claim that they will fatten on Paris Green and as a matter of fact it is a most difficult insect to kill.

Last year Prof. Brittain and I carried on an extensive feeding experiment to determine the rate at which poisons kill and the effect of fungicides on the killing value of the poisons used with them.

We found as a result of feeding several hundred lots of insects that lime sulphur, used with four of the ordinary poisons rendered the poisons 19.2 per cent less efficient than when they were used alone. Bordeaux mixture rendered the poisons 43.5 per cent less efficient than when used alone, while soluble sulphur on the other hand hastened the actions of the poisons, rendering them 13.1 per cent more efficient than when used alone.

We have found that soluble sulphur and arsenate of lime may be used in almost any orchard without bad results. When used twice, or oftener in orchards that are not in the pink of condition, yellowing and dropping of the leaves occur. Soluble sulphur is almost as good a fungicide as lime and sulphur and where an insect, like canker worm, is bad in an orchard, threatening to defoliate the trees if the most rapid killing poison obtainable is not used, I would recommend soluble sulphur 1 lb. to 40 gallons and arsenate of lime ¾ lb. to 40 gals. once, about three days before the blossoms. That is the most rapid killing combination that we have found as yet and is almost harmless to foliage if used only once in an orchard in one season.

In March 1916, Prof. W. J. Morse of the Maine Agr. Exp. Sta. published Bull. 249 "Six years of Experimental Spraying at Highmoor Farm." In this publication he notes the high fungicidal value of arsenate of lead when used alone. In 1912 he states that, "4 pounds of arsenate of lead paste alone in 50 gallons (wine) of water gave as good or better scab control than 3-3-50 Bordeaux mixture or lime sulphur plus 2 lbs. paste arsenate of lead to 50 gals. (wine) of spray." In 1913 he states "Almost perfect scab control was obtained with Bordeaux mixture, the larger amount of arsenate of lead used (2 lbs. to 50 wine gallons) and lime and sulphur 20 per cent stronger than standard dilution—the efficiency being in the order named. Nearly 39 per cent of the apples on the unsprayed plots were scabby." In 1914 and 1915 he reports practically the same results, double strength arsenate of lead alone being almost equal to Bordeaux mixture and lime sulphur as a fungicide under Maine conditions.

Last year in Nova Scotia we got very marked control of both scab and pit from the use of arsenate of lead alone in single strength.

When the orchard is not being highly fed and there is any danger at all from using soluble sulphur and arsenate of lime, I would recommend the use of 4 pounds of paste lead arsenate to 40 gals. of water alone for canker worm. The poison alone will kill more rapidly than with lime sulphur or Bordaaux mixture and when used alone and in double strength it is a very efficient fungicide and is absolutely harmless to foliage. Where an excessive strength of lead arsenate is used with lime sulphur increased burning results.

For orchards where canker worm is very numerous we would recommend either of the following, applied immediately before the blossoms open.

First Choice. Arsenate of lime ¾ lb. to 40 gals. Soluble sulphur 1 lb. to 40 gals.

Second Choice. Arsenate of lead paste, 4 lbs. to 40 gals. alone. The first is cheaper, the second safer.

For the tussock moth which promises next year to do an excessive amount of damage throughout the Valley, we have to put poison into the last summer spray, or that applied during the last days of June. With lime sulphur, as weak as it must be used for the last summer spray, we can only use a very moderate amount of arsenate of lime or arsenate of lead without damaging the trees and it would seem in the view of the high fungicidal value of arsenate of lead alone, that double strength arsenate of lead used alone would be one of the best sprays to use for the last summer spray in the orchards where the tussock moth is very numerous.

As a second choice we would recommend a sodium arsenate Bordeaux mixture made according to the following formula. Dissolve in a bucket of hot water 12 ounces to one pound of crystals of sodium arsenate. Use this liquid to slake 4 pounds of fresh stone lime and dilute to 20 gals. of liquid. In another barrel dissolve 3 pounds of bluestone (Copper sulphate) in 20 gals. of water. Pour a bucket from each alternately into the spray barrel. In case a stronger mixture is needed for potatoes, more bluestone and more lime may be added. Owing to the soda present in the Bordeaux mixture the poison in it, which is arsenate of lime, will act more rapidly and is more efficient than any other poison that we have yet used with Bordeaux.

The poisons recommended for orchards very heavily infested with tussock moth are the following, applied during the last days of June or early July.

First Choice—Sodium arsenate Bordeaux mixture. The more efficient fungicide.

Second Choice.—Arsenate of lead paste, 4 to 5 lbs. to 40 gals. Somewhat the safer.

Among other mixtures that we used at the laboratory during the past summer was a Bordeaux mixture made by using the commercial hydrated lime in place of stone lime which eliminates most of the trouble when making Bordeaux. The formula for making is as follows. If a 7-7-100 Bordeaux is required, make up a stock solution of bluestone or copper sulphate by dissolving one pound of bluestone in each gallon of water, or 40 lbs. of bluestone in a 40 gallon barrel of water. Pour into this 100 gallon spray tank 7 gals. of stock bluestone solution then fill the tank up by adding 93 gallons of water. Add to this 7 pounds of commercial hydrated lime, start the agitator, add the poison and the mixture is ready to be applied. For safety it might be best to add a slight excess of hydrated lime. Arsenate of soda should not be used with Bordeaux mixture made from hydrated lime. Triplumbic arsenate of lead is the best poison to use with this type of Bordeaux mixture. Acid or standard lead arsenate coming next and arsenate of lime next to that. Hydrated lime has the advantage over stone lime in not losing its value to any great extent when stored in small quantities in sacks for two or three months.

The spray calendar which Prof. Brittain and I have written for 1917 contains the best that we know at present about spraying materials and methods. The change to Bordeaux mixture for the last summer spray has, and will, arouse comment. I expect that some people will report slight russetting from the 7-7-100 Bordeaux that we recommend for 2 weeks after the blossoms, but on the whole there will be little trouble from it as the down or pile is pretty well off the young apple by the end of June. Until the apple surface becomes smooth there is of course danger of russetting but Bordeaux used two weeks after the blossoms resulted in less russetting than that used immediately before the blossoms in all of our work in 1916.

Lime and sulphur used too strong two weeks after the blossoms has caused the loss of an enormous amount of apples throughout this valley for the past six years. Use a mist or calyx type of nozzle for after the blossom sprays and do not get the solution too strong. Whenever you get leaf injury after the blossoms you may be sure that you are causing a corresponding amount of the fruit to drop. Many do not notice the drop and blame the failure of their orchards to other things when too strong a spraying solution is the cause.

A stranger to the Annapolis Valley listening to this paper might think that I was not in favour of spraying or perhaps get the dea that it is best not to spray, but if we are going to do a thing we should do it in the best way and with the best materials and should like you to discuss these materials and their use thoroughly here this evening. Five years ago a man might have hesitated about talking as freely of spray injury before an Annapolis Valley audience as I have today. Then all were not certain about the value of spraying. Today there is not a single man in this audience who is not convinced as to the value of spraying with present solutions and if there is anything better going he wants it, so I have felt free to tell you all I know, to talk over what I think and to speculate on what I do not know but intend to find out, with no fear of anyone drawing wrong conclusions.

The Annapolis Valley is indebted to the Dominion Fruit Inspectors and to the officials of the United Fruit Companies for assisting in many ways the campaign for more and better spraying. Two years ago Mr. D. Johnson, Fruit Commissioner,

said that he did not want his inspectors to go at the people with a club to fine them if possible, but he wanted them to teach people to grow and pack better fruit. The value of the Dominion Fruit Inspectors to the Valley during the past three years will never be fully appreciated. Th y have each argued with and convinced hundreds of people that they can not afford not to spray and so been one of the main causes of Nova Scotia having the cleanest and best crop of apples in eastern America this year. To the officials of the Fruit Companies the Valley owes a debt of gratitude along other lines. They have talked spraying and growing better fruit and then gone a step further; they have purchased their poisons, both last year and this, so that the grower has been able to buy them at about three fourths of the market price elsewhere. By keeping the price of spraying materials down and by placing a premium on growing clean fruit, the companies have been of inestimable value to the Annapolis Valley and as they grow they will be a still greater factor in the production of good fruit.

On occasion we hear that a certain company is changing its system of charges, is starting to charge on all barrels of apples delivered at the warehouse instead of on the barrels packed out. Again we hear that a certain company is going to ask this or that member to take account of sales for his fruit or not bring them to the warehouse, that the United is going to ask a certain company to take a separate average for its fruit because, on account of the lack of spraying in the neighbourhood, it is impossible to make a good pack of the output of that company. All of this indicates that the management, or in other words the men who control the companies and who are usually growing the best fruit, are determined to force the members to grow good fruit or else take separate prices. The companies do not want unsprayed fruit, it pulls down the average of the pack as well as the price that would otherwise be realized from good stock. The man who does the most "kicking" in the fruit company, and with the least reason, is almost invariably the man who grows the poorest stock.

We hear talk of high freights, etc., and there is no doubt some truth in what we hear, but are we not partly to blame? We have a bumper crop like 1911 and insist on the railway furnishing equipment to haul it out. Then for a period of years we grow less than half of the quantity produced in 1911 and as a result all that extra equipment lies idle. Who pays the dividends on that idle equipment? The grower. If we produced an even crop of apples year in and year out the railway would know exactly what to expect and could then handle our apples at minimum cost.

More spraying will do more than anything else to establish commercially our apple crop. In Round Hill, which is probably the best sprayed district in the Valley, the crop for the past four years has varied within 35 percent of the average for the four years, and that average has been about 72 per cent of the bumper crop of 1911. During the same four years the Annapolis Valley as a whole has averaged 42 per cent of its 1911 crop.

During the past three years Mr F. H. Johnson of Bridgetown, one of the best if not the best, sprayers in the Annapolis Valley has had 840, 860 and 852 barrels of apples respectively in the years 1914, 1915 and 1916 from his five acres of orchard, or a variation of less than one and one half per cent from the average for the three years. This is a most remarkable record and Mr. Johnson attributes it more to his thorough spraying than to any or all of the other factors that enter into the production of his fruit.

Mr. W. G. Clarke of Bear River has had in his orchard in 1914, 1915 and 1916 respectively 374, 234 and 331 barrels of apples or a variation from the average for the three years of less than eight per cent.

Another orchard the owner of which does not want his name mentioned, but whom you would all recognize as one of the most thorough sprayers in the Valley has taken approximately the following crops from his orchard, of course basing all on a 100 per cent or perfect crop in 1911

Percentage of 1911 crop in 1912	69
Percentage of 1911 crop in 1913	55
Percentage of 1911 crop in 1914	75
Percentage of 1911 crop in 1915	57
Percentage of 1911 crop in 1916	55

Average percentage of 1911 crop since 1911, 63 per cent.

Variation from the average crop since 1911 has been less than 20 per cent.

I have the records from two varieties of apples from one sprayed and one unsprayed orchard at Round Hill, the sprayed orchard belonging to Mr. L. Wiltshire.

Average Percentage of 1911 Crop Since 1911.

	Sprayed	Unsprayed
Nonpariels	96.6	31.66
Granvensteins	109.76	34.8

Percentage of No. 1 and 2 Gravensteins packed from the above orchards.

Year	Sprayed	Unsprayed
1914	90	34
1915	40	22
1916	88.7	53

or more than three times the total crop over a period of five years and about twice as many No. 1's and 2's, from the sprayed orchard.

These records, and there are dozens more if we could only get them, show that there are practically no off years in the well sprayed and well cared for orchards of the Annapolis Valley. Fifteen years ago a man could stand up in these meetings and complain of canker worms or caterpillars defoliating his trees and get a respectful hearing. Then years ago you began to ridicule that man, five years ago you stopped listening to him, you knew that such insects were the result of neglect on the part of the owner. The same is true of scab or black spot years ago you sympathized with each other over having spotted apples, five years ago you began to realize that a number of men were growing clean apples every year by thorough spraying. Today a man who address this audience and complains of his apples growing spotted is at once ruled as a "joke" or a "back number." You have no sympathy with him at all. You know that the spotted apples are no more than an evidence of his neglect.

I am going to predict that in five years time you will accord the same treatment to the man who complains of his apple crop failing that you do today to the man who has canker worms or who grows spotted apples. We have today a mass of evidence which goes to show that there are no failures and practically no short crops in well sprayed and well cared for orchards. As years go on I am sure that we can improve the sprays still further and I believe that it is possible by more general, more thorough and more intelligent spraying to stabilize the crop of the Annapolis Valley to within 20 per cent of normal in quantity.

With extreme variation eliminated we could expect coopers, warehouse men, fruit companies, railways steam boats, auctioneers and commission men to handle the crop with greater economy and so return the grower increased profits over and above his individual profit through thorough spraying. I have endeavoured in this paper, gentlemen, to give you a report of the most important work carried on during the past season in the laboratory which you assisted so well in getting for Nova Scotia. It is Dr. Hewitt's policy to have our most important findings placed before you in time to be of use in your next seasons work and so to be of the greatest benefit to you. I thank you for your support in the past and hope that our cordial relations of the past will continue and be in the future as they have been in the past, mutually beneficial.

Annual Convention Nova Scotia Farmers' Ass'n.

Organization Attains Its Majority

The Nova Scotia Farmers' Association attained its majority at its twenty-first annual meeting held in the Parish Hall, Amherst, on January 23rd, 24th and 25th.

There was a representative gathering of farmer delegates from all parts of the province. The two extremes, Cape Breton and Yarmouth sent strong delegations. The South Shore particularly Lunenburg County, was also well represented and as usual the Valley counties and Cumberland, Pictou and Antigonish counties contributed their usual quota of brainy tillers of the soil.

After the opening prayer by H. S. Shaw and prior to the reading of the president's address, the president, Mr. R. J. Messenger, named the following committees:—

Credentials—R. M. Jackson and S. A. Cook.

Resolutions—Wm. O'Brien, S. A. Logan, Walter Purdy, Ronald McDonald and S. P. Goudey.

The President's Address

Fellow Farmers:—

The agricultural history of the past year differs somewhat from that of 1915. Taken as a whole, it was a harder year for both producer and consumer; due in a measure to conditions resulting from the economically disastrous and inhuman conflict in Europe, but in some sections of the Dominion to adverse weather conditions. Enlistment has proceeded steadily exacting a comparatively heavy toll from the rural districts both in laborers and farmers and more are needed to take the place of those who have done their bit and passed to their reward.

Right here let us pay a well deserved tribute of honor to our own Canadian troops who have never in one instance, given us cause to blush, but who, on the contrary, have rolled back again and again to Canada the story of dauntless heroism and loyalty to the cause of right.

Newspapers, ignorant of the real difficulties of the producer, politicans and the other counterfeit patriots have spent the past two years in urging the farmer to produce more and at the same time to offer himself for service in the trenches of Europe. The farmer in response has given more than his share of enlistment, and, if weather conditions had been better, would have produced above an average.

He has, however, felt the strain of diminished labor supply and on the average is this year getting a smaller income with larger expenses. And though butter, eggs, pork, etc. are higher than ever before, the labor and feeds necessary to produce these commodities are so much enhanced in price that the net value of the producer is no greater than in former years, while the other necessities of life are much more expensive.

Work of the Year.

During the winter of 1916 the Commission of Economics and Development asked for an expression of the needs and problems of the Maritime farmers, with a view to finding how existing conditions could be improved so as to enable rural workers to increase production, and make that production more profitable. To obtain an expression of opinion, Professor Cumming called at Truro in March a meeting composed of the executives of the Nova Scotia Farmers' Association and the Maritime Stock Breeders.

Before attending this meeting, I obtained by correspondence, the opinions of some fifteen of the most prominent farmers of the province including our directors, and a resolution and recommendations from the Annapolis County Farmers' Association.

This correspondence and the discussion at the meeting disclosed the fact that the principal needs of the Maritime farmers were:

1st—Lower freight rates on feeds and fertilizers.

2nd—Free agricultural Implements and fertilizers.

3rd—Cheaper Plant Food.

4th—Cheaper money and longer terms of credit at banks.

Professor Cumming was appointed to represent the Maritime Provinces before the Commission and your president to interview the heads of the Freight Departments at Halifax regarding lower rates.

This latter report was made to Professor Cumming who will probably embody it in his report.

The Halifax Exhibition.

An exhibition may be of great benefit for several indifferent reasons: the most important of these is the fixing and distribution of the most desirable types and conformation.

Individual ideas lead to confusion. Types fixed by Stock Associations composed of the most intelligent breeders of producers and these types, given the preference by the judges at the exhibitions, should result in ever-increasing excellency.

I am sorry to say, however, that even large groups of producers make costly mistakes and these mistakes take time to correct. A case in point is the Ayrshire cow. Up to within the last five years the prize Ayrshire was a smooth, tidy little cow, whose udder carried an almost straight underline. This of necessity resulted in the short teats which have injured the reputation of the Ayrshire as a satisfactory milker. Thanks to a few unprejudiced practical men, the folly of breeding this type is beginning to be recognized and the demand for larger teats and production will bring the necessarily more pendulous udder and the larger, more rangy type of body.

Personally and for the sake of the

educative value, I consider the judges should do their thinking aloud so those at the ringside could hear why certain animals were turned down or others won, as is done at our short courses. The excuse that those showing would not want the public to know the discrepancies of their stock or produce, seems a flimsy one. To the young breeder who wants to learn with a view to future showing, it would be a boon in helping him to breed what is wanted and would tend to increase the number of entries. Even experts disagree, and if a judge is ashamed to give reasons for his decision, he should not be in the ring.

The Halifax exhibition is supposed to be a child of the Nova Scotia Farmers' Association. If so, it is a difficult matter today to recognize its parentage. It has almost lost its plain country appearance and is now in the full dress of a betinselled city vaudeville. I spent two hours in the morning and two more in the late afternoon of September 15th down in the swamp at the farthest end of the grounds among the stock, after a struggle through the crowds at the entrance. Down there it was like being on the lonely prairie, as far as contact with human beings were concerned.

During the morning visit I do not think I met fifty different persons, and these wore the bored appearance of those who had come down for the reason that they wanted to see everything that could be seen free of cost, and thus get full value for their 25 cents.

Around the judging ring was the reporter for the Maritime Farmer and an occasional government official. Occasionally a spectator passed with a timid, sidelong look at the judge as if he were afraid he might learn something of the operation of some secret society. In the Sheep and Swine buildings the loneliness increased, until one felt the inception of homesickness. Once in a while a pen would be found with an animal in it, sufficient to remind the spectator where he was.

The small breeder cannot take his few anmials to Halifax without heavy individual expense, so the show in stock narrows down to a few professional breeders, in some cases with little or no competition.

When, however, I try to express my opinions of conditions obtaining between the manufacturers' building and the grand stand, I find my education in English woefully inadequate. Take the tower of Babal, the streets of Ascalon, the Bowery in New York, and the lunatic asylums of the continent, and mix them in one great crucible and you would approximate the Halifax fakir row.

The Herald and Chronicle get pretty near the truth sometimes. Listen to what they say speaking of the fakirs:

"Morally they are damnable; financially they are appalling. During the eight or nine days the exhibition was open, thousands of young persons had their lowest passions stirred by the sights they saw on the midway, and thousands of innocents, lured on by the hope of beating a fakir at his own game, were fleeced out of their last cent and hundreds of these young people had implanted in them the seeds of gambling.

The gamblers and other attractions carried away with them from $30,000 to $40,000 filched out of the pockets of our citizens. How many sick and wounded would it take care of? What a magnificent contribution it would make to the Red Cross or other funds, and yet the outstanding features that bring about such moral degradation and financial loss to our country are considered by the commissioners as necessary parts of the exhibition.

"We believe that every thoughtful citizen will say with us, "Shame on such work!" if we cannot conduct the fair on clean and educative lines, making education its outstanding feature and its amusements clean and pure, then for heaven's sake abolish the fair and thus remove what, this year, was a disgrace to the province. One pair of fakirs who had $5000 changed at the bank was heard to say to the other "Not too rotten for eight days among the Halifax rubes." Is there any need of further comment?

The Agricultural College

The good work of the Agricultural College is increasing every year both in extent and efficiency. Besides the associate course and the yearly short course, the extension work is becoming an important feature. The short courses in other parts of the province though only locally attended are exerting a marked influence; while the Entomological Department is doing good work among the orchards.

Possibly one of the most important activities of the college is the dissemination of Superior Stock increasing in excellency every year. This is not only of direct benefit to the province but is also a stimulant to the improvement of private herds.

The Farmer's Problems

As intimated before in this address, the Commission of Economics and Development asked for an expression of the needs of the Eastern Farmers; and Principal Cumming was delegated to carry our needs before this commission. Whatever his report may disclose, I have not heard of any material improvement in conditions which that meeting asked for.

The greatest problem which the farmer has to solve is himself. Back of all these unsatisfactory agricultural conditions s the farmer, inert, passive, submissive, yielding a more or less willing slavery to his servant-masters, the politicans and business men.

His Position

He is a political football. In the government of his country he has no voice. There are eleven bona fide farmers in the Federal Parliament or about 4½ per cent of the representation while the rural vote is more than 50 per cent. In our present local parliament there is one lone farmer, who carries as much weight as a breath of air.

The political candidate loses no sleep over the rural vote. The farmer is left in charge of the local heeler who knows that he can be herded into line at the call of the "grand old party" of his father and grandfather.

If he makes a struggle for independence by tryng to form unions to strengthen his position, all the interests which would suffer by his increase of power combine to keep him down. The business man with whom he deals fixes the price of what he sells and what he buys. He is taxed out of all proportion for the land he owns, for the plant food to enrich that land, and for the implements to till that land, all to satisfy the greed of the thousands of non producers who fatten on his efforts to make a decent living.

He is the drudge of every nation and no one outside of his calling is willing that he should be anything better.

Why?

1. Simply because if he would control legislation and gain a measure of prosperity proportional to the labor he performs and equal to that of the business men with whom he deals it would mean higher food prices and more expensive living for all non-producers.

2. A considerable number are uneducated and therefore unable to express themselves in public. A man must be able to express himself to wield an influence in public.

3. Always hard at work to earn a

KILL YOUR FARM
---AND---
GARDEN PESTS

LARVAECIDE WILL DO THIS SURELY--QUICKLY

Destroys Wire Worms, Slugs, Cabbage Worm, Cabbage Maggot, Onion Maggot, Potato Bugs, Cut Worms, Leather Jacket, Centepedes, White Grubs.

Larvaecide is the most economical preventative of these pests known. Larvaecide fills a long felt want. Only 250 lbs. required to an acre of light soil and 350 lbs per acre will treat the heaviest soil.

LARVAECIDE IS NOT AN EXPERIMENT—IT IS A PROVED ANTI-GRUB AGENT.

It must be thoroughly mixed in the soil.—Must not come in contact with growing plants.

John F. Wallace, Hillsboro, N. B.; A. T. Downing, Albert, N. B.; H. J. Steeves, Salem, N. B.; Judge J. M. Owen, Annapolis, N. S.; C. F. Peck, Hopewell Hill, N. S.; G. A. Hawkesworthy, Annapolis, N. S.; H. D. Cochrane, Cape Station, N. B.; W. M. Steeves, Hillsboro, N. B.; W. H. Weatherspoon, Granville Ferry; Wm. Duby, Turtle Creek, N. B.; Geo. E. Corbett, Annapolis, N. S.; and Geo. Balsor, Granville, N. S., are among the many who bear unsolicited testimony to the absolutely destructive properties of Larvaecide to insects which make farming and gardening more laborious and less profitable.

Not only will Larvaecide destroy insect pests but it will positively prevent club foot. So says Mr. Geo. Newcombe of Hopewill Hill.

HERE'S A SAMPLE TESTIMONIAL

TRADE MARK

Dear Sirs—

Last spring I ordered a bag of Larvaecide for my garden which was infested with cut worms, slugs, etc. In order to prove its virtue, I used it on one side of the garden only, planting the other side without it. The vegetables grown on the side in which I used the Larvaecide were splendid, in fact the best ever grown by me, while those from the other side were as formerly, much eaten and of inferior quality.

I wish to place my order for double the quantity ordered last year, for this Spring's delivery.

Yours truly,
(Sgd) Geo. A. Hawkesworth.

Larvaecide is for sale by leading dealers everywhere in the Maritime Provinces.

FOR SMALL PLOTS USE IN QUANTITIES AS FOLLOWS:—

100x140 (about 1-3 acre) requires 100 lbs. LARVAECIDE.
50x140 requires 50 lbs. LARVAECIDE.
25x25 can be treated with one of our small boxes of LARVAECIDE.

For Booklet and full particulars write

LARVAECIDE MANUFACTURING COMPANY
Head Office 102 Prince William St.
St. John, New Brunswick.

living he cannot afford the time to meet in convention to discuss questions of vital interest to his profession and he thus lacks the broadening and encouraging effect of public contact with other minds and similar interests.

4. His want of knowledge and retired mode of life makes him suspicious and he is therefore a poor co-operator.

5. He has through long generations, allowed the business man with whom he deals and his party newspaper to do his thinking for him and he believes in them infallibly to his own injury.

In my humble opinion, there are three principal conditions or lines of action necessary to improve the farmers' position and give him his proper place in his country.

Education, Vocational Co-Operation and Political Co-Operation or Union

A certain amount of Education is necessary on general lines to give a man a taste for good reading; to broaden his social or national horizon; to enable him to grasp the economical, industrial and national questions that are arising every day, and to encourage him to take his place and lend his influence in the solution of these questions. An education gives the farmer more respect for himself and his calling, makes him self reliant; more liable to stand up for his rights, less of an easy prey for the man with an axe to grind at his expense.

I would like my farmer also to take the first two years at least in one of your agricultural colleges to give him the necessary theoretical knowledge of his own profession. But the most important of all forms of education is a thorough business training. A man with a business education, counts the cost of operations, rejecting those which show irremediable loss.

A mind trained in business is never satisfied with guess-work.

The farmer should be conversant with business law in all its phases that could possibly be of interest to him.

I have often wished that a comprehensive business course for farmers could be put on at our Agricultural Colleges, not of course as elaborate as those of our regular business colleges but embracing all that would be necessary for the farmer as a business man.

Vocational Co-Operation

Co-operation is being attempted as a factor in improving the farmer's condition, and so far, has been only partially successful owing to out side opposition and inside greed and suspicion. Theoretically it is good and its efficiency will depend in the honesty and ability combined of its adminis trators.

Political Co-Operation

As long as the farmer is a blind partizan at the beck and call of political jobbers, just so long will he have no influence in making laws favorable to his prosperity and advancement.

The Western farmers have largely become disgusted with party rule and are organizing to see what can be done by united effort, while the politicans are taking heed. These farmers have adopted a platform, calling for improved, equitable, and clean legislation. If they succeed in influencing parliament so as to obtain laws favorable to their interests, it will be a step towards encouraging farmers all over the Dominion to place the call of party second to their own interests.

Our Programme

This is a farmer's program. We have some live questions and we want every farmer here to feel free to take part in the discussions. In your discussions speak to the point. We hope you will be so unanimous in your demands for better legislation in regard to the rearing of sheep, improvement of roads, the elimination of mongrel sires and other questions of vital interest, that we may obtain something tangible at the next session of legislature.

The foregoing address was ordered to be published for the benefit of the farmers of Nova Scotia, who were not present at the meetings. Discussions on several of the most important items mentioned in the ad-

Economical Electricity on your Farm

Has electricity been an advantage you thought you had to do without? Then welcome Delco-Light! For here is clean, safe, brilliant electric light—convenient, cheap power—and all this economically. Here is electricity for your farm without bother, without trouble.

Make your farm home the most desirable of all homes. Add the cheerful, labor-saving, economical feature of electricity—save time for your wife and sons—your hired help.

A Completely Efficient Plant

No desirable feature has been forgotten, no unnecessary frill has been added, in building Delco-Light. The plant is simply operated—a child can look after it. Upkeep cost is absurdly small. Sufficient light is provided for house, barn, outbuildings, yard. Power is provided to run cream separator, churn, vacuum cleaner, water system and other light machinery.

The Delco-Light plant consists of one unit combining gasoline engine, electric generator, switchboard, storage batteries. Self-starting on the pressing of a switch. Stops automatically when batteries are charged. Needs little attention — Develops adequate power. Easily installed.

Prices now—No. 208 $375 and No. 216 $450. Prices after Mar. 1st—No. 208 $390 and 216 $465.

Completes Your Electric Plant

This is the Delco-Light Power-stand—an efficient, economical little electric motor that you can carry anywhere on your farm. Runs off the nearest light socket. Will run all small machinery. Save you hours of time and most of your hand labor. Absolutely safe even for children.

Full Literature FREE

We have prepared booklets describing Delco-Light fully. Send for them. They tell the whole story in plain, unvarnished English. They are of intense interest to every farmer. Your name and address on a postcard will do.

C. H. ROOKE
Distributor
168 Bay St., Toronto

Domestic
Engineering Co.
DAYTON, OHIO

ELECTRICITY FOR EVERY FARM

DELCO-LIGHT

THE MINISTER OF FINANCE

REQUESTS

THE PEOPLE OF CANADA TO

BEGIN NOW

TO SAVE MONEY FOR THE

NEXT WAR LOAN

JAN. 9, 1917

DEPARTMENT OF FINANCE
OTTAWA

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1–$2–$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day.
JACOB BROS, Diamond Imp., 15 Toronto Arcade, Toronto

dress took place at various times during the convention.

The Sheep Problem in Nova Scotia

The Sheep Problem in Nova Scotia was the subject of an interesting talk by Mr. Geo. E. O'Brien of the Live Stock Branch, Ottawa. Mr. 'Brien said the advantages of the sheep breeding industry were quite well known. That it is a lucrative business when given a fair degree of attention, is not disputeed by anyone.

He did not purpose laying any stress on the advantages of the industry, as his purpose in coming before the meeting was rather to enumerate the sheep grower's disadvantages and by the aid of the intelligent farmers present formulate some plan of action that will tend to overcome some of the obstacles.

In discussing the sheep industry with prominent farmers in all sections of the Maritime Provinces, two main causes were advanced, viz: a lack of proper fencing and the ravages of dogs. The law should provide that line fences should be of such construction that they would be sheep proof. The dog nuisance has engaged the legislation of nearly every province of Canada in which sheep are kept. He read extracts from the laws of the several provinces anet this subject. To overcome the dog nuisance he suggested the taxing of dogs, the destruction of useless curs on which their owners refused to pay the tax, and the compulsory compensation for all damages done to sheep by dogs from the fund created by the aforementioned tax.

The question is often asked: Why do we not receive more for our wool and why does wool from other countries command a higher price than does the wool from our flocks?

The reasons why we do not receive more for our wool are: Because we do not grow large enough quantities. Because we do not take proper care of our sheep. Because we do not grow the grades that bring the highest market prices.

Mr. O'Brien concluded his interesting discourse by enumerating the main points to observe in the care and packing of wool and referred to the very successful wool sales that had been held in the Maritime Provinces last year. Several new centres will be organized for sales in 1917 and to those who will take the best care of their sheep and wool and who will place the product on the market properly graded, packed and unwashed will come the highest prices paid for the grades of wool here grown.

Problems of the Sheep Raiser

Mr. Wm. O'Brien, one of the veteran successful sheep growers of Windsor, addressed the convention on the Problems of the Sheep Raiser.

He said the most serious problems of the sheep raiser was the proper breeding, feeding and care of the flock. If these three are well attended to, the other problems will take care of themselves. The dog nuisance has not caused him any trouble, probably because Bill O'Brien is known to be handy with a gun and not a few of the canine species occupy unmarked graves in his pasture fields.

He does not believe in allowing sheep to wander all over creation. His advice is to keep them near as the sheephouse as possible and feed well. Sheep will not thrive on fence poles and spruce bushes.

Do not allow sheep to annoy yourself and your neighbors too. He was under the impression that more sheep die through neglect than from the ravages of dogs. Mr. O'Brien is a strong advocate for sheep dipping.

Mr. C. P. Blanchard, Truro, rehearsed his experiences as a sheep breeder and shipper and showed how this important industry dwindled and deteriorated. From personal observation he believed the dog nuisance responsible for the decline. He said our present dog law is not worth one cent to the sheep breeder. It is no use to try to promote the sheep industry so long as dogs run at large. It is far more important that we have a good sheep and dog law than that we have a Grit or Tory government.

Other speakers to this question were A. Hector Cutter, S. A. Cook, A. S. McMillan, P. Blanchard, Chas. Maxwell, M. A. MacLeod, Geo. Pinneo, and Messrs. Gates, Chisholm, Jones, Nichols, Lee, Murray and Corning.

Mr. Jones took the stand that the licensing of dogs would be preferable to their taxation.

Tuesday Evening

On Tuesday evening the farmer delegates were welcomed to Amherst by the President of The Amherst Board of Trade. In the course of his remarks he enumerated some of the things that all those who remain at home can do to win the war. The farmers of Nova Scotia are doing their bit nobly and well.

Mr. Wm. Murray, vice president of the Association replied to the address of welcome in his usual humorous style.

Mr. W. J. Black, Agricultural Commissioner for Canada and Mr. G. S. Campbell, Chairman of the National Service Board for Nova Scotia, both delivered excellent addresses to which we will refer later. The evening programme was interspersed with songs and readings by some of Amherst's best talent.

The Business Session

was held on Wednesday morning.

Director's Report

The year just passed has been one in which agriculture has found a prominence which it has never enjoyed before.

A normal labor market, a climate which never causes a total crop failure and an increasingly intelligent class of agriculturists has heretofore allowed the abundant production of food at low, or at most reasonable prices.

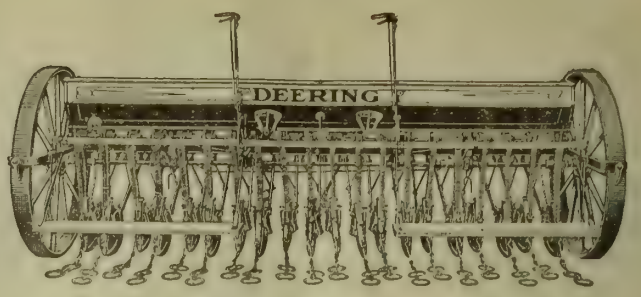
Since the war has entered upon its second year labor has grown scarcer every day owing to the heavy enlistment of farmers and farm laborers, and as a natural result there is a smaller production than last year. This is owing also in a measure to adverse weather conditions in different points of Canada during the past season. Canada has not produced as much of wheat, potatoes, beans, dairy products, and other staples in 1916 as in the previous year, while the relative number of consumers or non-producers has greatly increased. This state of affairs has led the latter class to realize, in a greater or less degree that the farmer is a very vital factor in the welfare of the country, and the production increased or decreases in proportion to the amount of rural labor. As a matter of fact, however the farmer is reaping a net profit this year very little, if any in excess of previous years, owing to the greatly enchanced prices of the commodities he has to purchase, particularly those which aid in production.

Your Directors held the usual meeting directly at the close of the annual session; owing to the feeling that Mr. Bryan's increasing duties at the college made it difficult to attend to the affairs of the Association, and also because of his necessary absence at the annual meeting, no Secretary was appointed.

The Executive, however, met in February and reappointed Mr. Bryan after correspondence with the Directors.

In April Mr. Cumming called a joint meeting at Truro of the Executive of the Nova Scotia Farmers' Association and the Maritime Stock Breeders to discuss the needs of Maritime farmers, with a view to carrying evidence before the Commission of Econ-

(Continued on page 241)



Right Planting Brings Profit

IF you are growing small grains for fun and not for the most profit, plant your seed any old way. But if you want every dollar of profit you can get, plant your seed right. Use a **Deering** drill. Right planting often means profit when the other fellow has to take a loss.

The local dealer who handles these drills carries the drill best suited to your work. With his advice you can choose a drill that will plant your seed in your soil and plant it so that you have a much better chance of getting a bumper crop.

The arguments for **Deering** drills are far too many to be told here. The dealer will show you all about feeds, furrow openers, bearings, attachments, etc. He will give you reasons for buying his drill you cannot overlook. See him and talk this over with him, or write to us and we will tell you all about the best drill you can buy.

International Harvester Company of Canada, Limited
BRANCH HOUSES
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

No Crop Produces Profits Like a Maple Grove

Take any crop that you grow and figure out how much profit you have left after paying for ploughing, seed, fertilizing, cultivating, harvesting, labor, keep of horses, wear and tear on machinery, etc. Add to your cost a month of hot, dry weather and you are lucky to come out even.

Now go to your nearest neighbor who has a sugar bush with up-to-date equipment and ask him to tell you honestly how much syrup and sugar 100 average size maple trees will produce, how much he sells it for and what it costs to make it.

You will find that, acre for acre, a sugar bush will produce a bigger profit than any other crop that you grow—and with less cost for equipment, with less labor and in less time—besides the sugar season comes at a time of th year when no other work can be done.

Maple products are now higher in price than at any time in the history of the industry, let us show you how to produce the highest quality syrup and sugar and obtain the highest prices.

Ask us today to send you the fullest information about sugar making without cost to you.

GRIMM MFG. CO., LIMITED,
45 Wellington St., MONTREAL

CLEANER AND BETTER FRUIT RESULT FROM SPRAYING

If you have had trouble in selling your apples or other fruit at good prices because they have been scabby, wormy and distorted, why not make a change and use a

Spramotor
It isn't a SPRAMOTOR unless we made it.

Thorough spraying will enable you (under normal co ditions) to produce at least 75% No. 1 fruit and at the same time improve the condition of the trees.

The Spramotor has demonstrated its superiority in performance and build. There is a machine suited to your particular needs—hand or power. Prices from $6.00 to $350.00.

Made in Canada. No Duty to Pay.

Write to-day for further information and FREE Treatise on Crop Diseases.

THE LONDON SPRAMOTOR,
3074 King St. East, - - London, Canada

Big Profit in Potatoes

1917 potatoes will undoubtedly command high prices. Buy a

Eureka Potato Planter

now. The Eureka line is the largest made. Three sizes, one or two rows, with or without fertilizer attachment. Used successfully for 18 years. Operated by one man, meaning less trouble and expense. Opens furrow, drops seed any distance or depth, puts on fertilizer (if desired), covers up and marks next row, all automatically. Driver sees seed drop. Does not injure seed.

Ask for catalog of Potato Cutters, Sprayers and Potato Diggers—the Eureka Line of Potato Machinery.

Write today. Sold by

FROST & WOOD CO., Ltd., St. John, N. B.

Eureka Mower Co.
Box 715
Utica, N. Y.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

F. L. Colpitts, Petitcodiac, N.B.

STRAWBERRIES

It is not too early to think about this years strawberry acre. We can supply plants from all the varieties most profitable in the Maritime Provinces. Our new Catalogue, out this month, tells all about them. eLet us send it to you; learn about the fall bearing strawberries, they are a real success.

CYRUS & MANNING ELLS,
Port Williams, N. S.

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N S.

The publisher of the best Farmer's paper in the Maritime Provinces in writing to us states:

"I would say that I do not know of a medicine that has stood the test of time like MINARD'S LINIMENT. It has been an unfailing remedy in our household ever since I can remember, and has outlived dozens of would-be competitors and imitators."

HOW LIME BENEFITS FLOWERING PLANTS AND LAWNS

To the lover of flowers and rich foliage plants, we present to such in the introduction of Ground Limestone for the soil a new interest in the growing of such plants. The application of lime to the soil produces a wonder revelation in the rich, deep colored petal of the flower and the dark, rich green color of the foliage of the plants. The flowers by their added brilliancy appear to be an improved variety. The flowers when cut will not wilt down like those grown on soil deficient in lime.

All plants appear to take on a new life in such improved soil. And the effect of all fertilizer on the newly limed soil is soon noticeable, which is not the case in an acid soil. The best foreground and background for the display of beautiful flowering plants with their rich foliage is a beautiful lawn. Such a lawn cannot be had upon a soil deficient in lime. The grass on such soil presents a slender, limp growth of flat green color, with moss growing around its roots impoverishing its growth. Apply ground limestone to such soil at the rate of two tons per acre and notice the result in a short time. The grass will not shott up like a weed, but the lawn will become of a dark blue-green color. The blades of the grass will widen out from its base and become stiff and stout and vigorous. The moss will begin to turn a light yellow and in three weeks it has about all disappeared. When the lawn is in this condition any fertilizer placed upon the soil is soon very noticeable. The lawn mower will clip this improved grass more smoothly and evenly than ever before, for the reason that the blades of grass stand more erect and are stiff and tender, and easily cut.—Henry Bucey in Northwest Horticulturist Dairyman.

IS THE HIVE A CENTER FOR DISTRIBUTING FIRE BLIGHT?

The tests reported "prove conclusively to us that the blight organism, in honey, can remain sufficiently virulent for 47 hours to produce infection, with the extreme time measure of virulency probably not reached. Tests of this kind were made with fresh apple honey and also with well-ripened honey taken from the hive in midsummer and the results were substantially the same. It is evident from these results that the formic acid of honey is not immediately fatal to the blight organism. We believe we have proved that if one bee carries 100,000 bacilli into the hive one day, that on the following one or two days, each of 1,000 bees has the possibility of carrying a considerable fraction of 100 virulent bacilli out to fruit blossoms, because practically all the bees in the hive are at work duirng the night curing the honey. This would seem to go a long way toward explaining the wholesale infection that occurs in the latter part of the blooming period."

WORDS OF WARNING

In the Nova Scotia Provincial Crop Report dated December 1st, 1916, we find the following note of warning:—

"Canker Worms (Alsophila pomotaria), were abundant locally, stripping the leaves from many unsprayed orchards. The adults appeared in countless numbers this autumn, and unless the early poison sprays are thoroughly applied, there will be much loss next season."

"Tussock moths and fall webworms are also on the increase, and the poison should in no case be omitted from the late summer spray next season."

RENNIE'S
NEW SEEDS---SECURE NOW

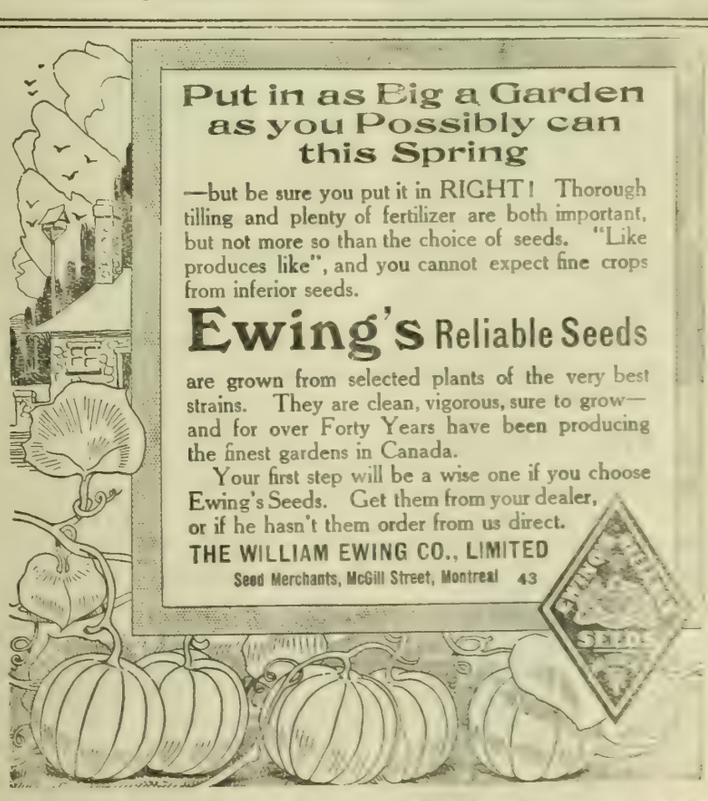
XXX Earliest Tomato (vines loaded early).....Pkg. 10c, oz. 50c
Beefsteak Tomato (enormous size)...Pkg. 10c, oz. 60c, 4 oz. $2.00
Sparkler Radish (round red white tip)...Pkg. 5c, oz. 15c, 4 oz 40c
First and Best Cabbage.....Pkg. 10c, oz. 30c, 4 ozs. 90c
Glory Enkhuizen Cabbage.....Pkg. 5c, oz. 30c, 4 ozs. $1.00
Prolific Golden Wax Butter Beans.....4 ozs. 15c, lb. 50c
XXX Solid Head Lettuce.....Pkg. 10c, oz. 25c, 4 ozs. 75c
Giant Prizetaker Onion (black seed)...Pkg. 10c, oz. 25c, lb. $2.10
Extra Early Red Onion.....Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.10
Early Eclipse Beet (round blood).....Pkg. 5c, oz. 15c, 4 oz 40c
Cardinal Globe Best.....Pkg. 10c, oz. 20c, 4 ozs. 50c, lb. $1.50
Spinach Beet (for greens).....Pkg. 10c, oz. 30c, 4 ozs. 90c
Chantenay Carrot (for table use).....Pkg. 5c, oz. 25c, 4 ozs. 65c
Snowball Cauliflower (gilt edge).....Pkg. 15c, 25c, 85c, oz. $2 75
Paris Golden Celery (very best).....Pkg. 15c, 1-4 oz. 60c, oz. $2.00
Early Premium Gem Peas (dwarf) 4 ozs. 10c, lb. 35c, 5 lbs $1.50
Select Yellow Onion Setts.....Lb. 35c, 5 lbs $1.70
London Long Green Cucumber.....Pkg 5c, oz. 15c, 4 ozs. 40c
Extra Early White Cory Corn (for table)
Pkg. 10c, lb. 35c, 5 lbs. $1.50
Early Branching Asters, White, Pink, Crimson or Mixed, Pkg. 10c
Choice Spencer Sweet Peas (mixed colors)
Pkg. 10c, oz. 30c, 4 ozs. 90c

RENNIE'S SEED ANNUAL FREE TO ALL

Order through your Local Dealer or direct from

RENNIE'S SEEDS, 190 McGILL STREET, MONTREAL

Also at TORONTO, WINNIPEG, VANCOUVER.



Put in as Big a Garden as you Possibly can this Spring

—but be sure you put it in RIGHT! Thorough tilling and plenty of fertilizer are both important, but not more so than the choice of seeds. "Like produces like", and you cannot expect fine crops from inferior seeds.

Ewing's Reliable Seeds

are grown from selected plants of the very best strains. They are clean, vigorous, sure to grow—and for over Forty Years have been producing the finest gardens in Canada.

Your first step will be a wise one if you choose Ewing's Seeds. Get them from your dealer, or if he hasn't them order from us direct.

THE WILLIAM EWING CO., LIMITED
Seed Merchants, McGill Street, Montreal 43

— GOOD DIGESTION —
When your digestion is faulty, weakness and pain are certain and disease is invited.

Mother Seigel's Syrup corrects and stimulates the digestive organs, and banishes the many ailments which arise from indigestion.

FOR 40 YEARS THE STANDARD REMEDY

MOTHER SEIGEL'S SYRUP

FOR STOMACH AND LIVER TROUBLE

At all Druggists, or direct on receipt of price, 50c. and $1.00. The large bottle contains three times as much as the smaller. A. J. White & Co. Limited, Craig Street West Montreal

Coffee Icing

Cook two Cups of Lantic Sugar with half a cup of strong coffee until the syrup forms a soft ball when dropped in cold water. Add a teaspoonful of vanilla extract and beat until cold enough to spread.

Lantic Sugar

"The All-Purpose Sugar"

is specially good for cake baking on account of the *fine* granulation.

The Sugar with the red ball trade-mark

Packed in 100-lb. Bags

For book, address

Atlantic Sugar Refineries, Ltd.
Power Building, MONTREAL 13

Dairying takes the least fertility off the land.

* * *

Milk is a highly perishable food, and the length of time it will remain sweet and safe, especially for children, depends, the specialists say, almost entirely upon the constant care it receives from cow to consumer.

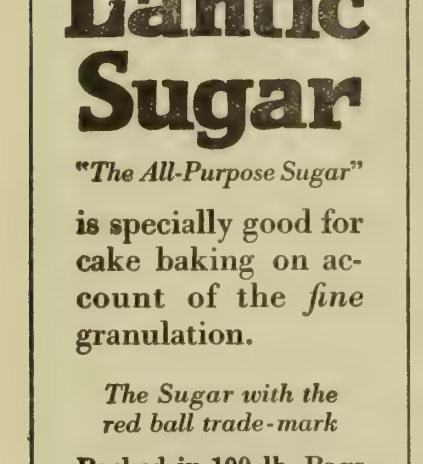
* * *

The cow that gives a gallon of milk a day in the winter and goes dry in the winter is not the profitable kind, especially this winter, when feed is so high priced.

Flattering to the Original

But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.



This is a facsimile of the package bearing portrait and signature of A. W. Chase, M.D.

DAIRYING.

WHAT TO LOOK FOR IN BUYING COWS

The best way to replenish the dairy herd is by raising the heifer calves. Many cannot, or think they cannot, do this and so resort to buying. There seems to be no cut and dried rules that one can follow in choosing good cows. The skill needed comes from close study and getting quite badly cheated and fooled a number of times. It seems that some man who has a cow to sell is certain she is the best cow ever put on the market. There is something touching in the simplicity with which he parts with his best cow to accommodate the buyer. It is well to be on the guard against these generous gentlemen and while we do not wish to say anything against their integrity, it is advisable to keep in mind the old maxim that it is useless to lock the stable after the horse has been stolen.

In buying cows it is very important to be able to judge their age. This is usually done by examining the horns, provided they have any. Another way to ascertain the age is by examining the teeth. At two years of age the cow has four full grown front teeth with two or more decaying milk teeth. At four years she will have her full set of eight in full size with sharp edges. These sharp edges gradually wear away, and as the wearing approaches the gum, the cow's usefulness declins: It may occur that a cow brought up on a sandy soil will wear her teeth out more and become correspondingly less valuable than one that has been fed in the stall on cut feed.

To the experienced buyer, the eye is a fine indication of the age. There is usiversally a bright fullness to the eye of the young animal that is sadly wanting in those having age. A cow's best milking time is usually from her fourth to her eighth year, when her decline usually begins, the udder showing the first signs of weakness. This is the time many dairymen show their folly. They keep her several years after she ceases to be profitable and then attempt to fatten up the old frame, losing about twice as much in the end as if they had sold her two years before. After a cow has passed her tenth year, her milk as a rule gradually becomes thin, and her place should be filed by a promising young animal. There are exceptions to this, of course, as many experienced dairymen will testify.

Some cows have large, fleshy udders, and fail to give the amount of milk that their size would indicate. Such cows are rare, however, and after all, the size of the udder when it is full of milk, and the cow is fresh, is the best index we have as to the value of the cow. With many buyers, this one point far outweighs all others.

Again, it is considered by some that large, crooked veins running forward of the udder indicate a good cow. In our experience, except with old cows, we have found this sign sometimes unreliable. In fact, we are inclined to believe the size of the veins is more a freak of nature than a necessity, and their display depends upon the thickness of the skin and hair.

D. L.

WHAT IT COSTS TO KEEP A COW

The New Hampshire Experiment Station compiled figures on cost of milk production as obtained from records of the Lyndeboro Cow Testing Association, and from records obtained from other farms, says a correspondent of the Holstein-Friesian Register. It is fully believed, however, that the figures are a conservative estimate on the yearly expenses entering into the production of milk on a dairy farm in New Hampshire. The following is a summary of the cost per cow per year: Cost of feed, $73.03; labor, $32.33; delivery, $7.18; housing, $9.05; depreciation on cow, $8.83; bedding, $4; bull, $3.79; taxes and interest, $4.55; ice, coal and wood for heating, $2.17; veterinary service and medicine, 87 cents; tools, utensils, salt, etc., 53 cents; cow testing association expenses per cow per year, $1.40; total, $147.73. The cow is credited with manure worth $15, and calf worth $3; total $18, leaving cost item of $129.73.

The Massachusetts station compiled similar figures and the cost was substantially the same as those found by the New Hampshire station. The average yearly food cost per cow was $90.04 and the net yearly fixed charges per cow was $56, making a total cost of $146.04. Commenting upon these figures, Prof. Lindsey, of the station, says in Bulletin No. 145: "The figures indicate that the farmers having a superior herd of Jersey grades whose average milk yield is 6,000 pounds per cow, should receive substantially 5.5 cents per quart for it at the farm in order to get a fair market price for his roughage, and $35 per year for his labor, per cow, or $420 for twelve

Then shall the King say unto them on his right hand.....

"I was an hungered, and ye gave me meat; I was thirsty, and ye gave me drink..... naked, and ye clothed me....."

Then shall they answer him, saying—"Lord, when saw we thee an hungered, and fed thee? or thirsty, and gave thee drink? ....or naked, and clothed thee?"

And the King shall answer..... "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me".

Overseas, in ravaged Belgium, more than 3,000,000 of "the least of these" are hungry, thirsty, thinly clad—looking to us! Have you done what you could for any of them?

Whatever you can give, send your subscription weekly, monthly or in one lump sum to Local or Provincial Committees or 41

SEND CHEQUES PAYABLE TO TREASURER

Belgian Relief Fund

59 St. Peter Street, Montreal

The Greatest Relief Work in History.

$16.95 Upward **Sent on Trial** *American* **Cream SEPARATOR**

Thousands In Use giving splendid satisfaction justifies investigating our wonderful offer: **a brand new, well made,** easy running, easily cleaned, perfect skimming separator only $16.95. Skims warm or cold milk thoroughly. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a **sanitary marvel,** and embodies our latest improvements. **Our Absolute Guarantee Protects You.** Besides wonderfully low prices and generous trial terms, our offer includes our

Easy Monthly Payment Plan

Whether dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog SENT FREE on request, is a most complete, elaborate and interesting book on cream separators. Learn how an American Separator may pay for itself while in use.

Shipments made promptly from Winnipeg, Man., St. John, N. B., and Toronto, Ont.

Write today for catalog and see our big money saving proposition.

AMERICAN SEPARATOR CO., Box 1212 Bainbridge, New York

WHOOPING COUGH

The Infant's Most Dangerous Disease.

Whooping Cough, although specially a disease of childhood, is by no means confined to that period but may occur at any time of life. It is one of the most dangerous diseases of infancy, and yearly causes more deaths than scarlet fever, typhoid or diphtheria, and is more common in female than in male children.

Whooping Cough starts with sneezing, watering of the eyes, irritation of the throat, feverishness and cough. The coughing attacks occur frequently but are generally more severe at night.

On the first sign of a "whoop," Dr. Wood's Norway Pine Syrup should be administered, and weeks of suffering prevented, as it helps to clear the bronchial tubes of the collected mucous and phlegm.

Mrs. Nellie Barley, Amherst, N.S., writes: "I have much pleasure in saying that there is no cough syrup like Dr. Wood's Norway Pine Syrup. My little girl took whooping cough from a little girl who has since died with it. I tried lots of things but found 'Dr. Wood's' to give the greatest relief. It helped her to raise the phlegm, and she is now better.

My young brother is also taking the cough, and I am getting 'Dr. Wood's' to work again."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper: 3 pine trees the trade-mark; price 25c. and 50c. Refuse substitutes.

Manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

1867 --OUR-- 1917
JUBILEE YEAR

We have begun our 50th year with every prospect of it being the best yet. Students can enter at any time.

SEND FOR RATE CARD.

S. KERR
Principal

cows. If he had ordinary pasture for his herd, this cost might be slightly reduced. The dry weather of the last few summers has greatly reduced the value of the pasture. Profit other than the sale of roughage is not included, neither is allowance made for cost of supervision. Even if his herd consisted of grade Holsteins, or Ayrshires, it is doubtful if he would find it profitable to sell his milk yield for less, unless the average yearly yield was considerable in excess of the above."

The Connecticut (Storrs) station compiled figures for five years on the college herd composed of Jerseys, Guernseys, Holsteins and Ayrshires. Accurate accounts were kept, not only of the cost of feed, but also of labor and other items of expense. In the five years the average food cost per cow per year was found to be $84.07, and the fixed charges per cow per year, less $15 for value of manure and calf, was $50, making a total cost of $134.07 per cow per year. The average for five years of 124 cows showed that the average cow produced 6,379 pounds of 4.34 per cent milk at a cost of 4.78 cents per quart at the barn.

ABUSING THE COW WASTES THE FEED

Too often we, in this progressive age, talk and write about the best methods used among farmers, forgetting that there still exists (not infrequently either) some common abuses that should be discouraged. Even though the institute lecturers occasionally call the attention of the farmers to the leaks and wastes of the farm, these wastes still abount on every hand.

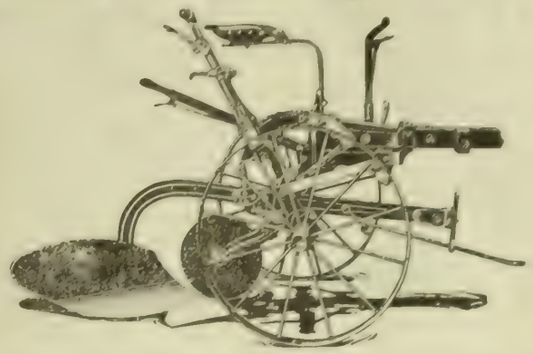
Probably at this time of year the most noticeable abuse and waste is the manner in which dairy cows are stabled and bedded. When riding through the country it is no uncommon sight to see milk cows with both hind legs and often the udder besmeared with dried manure and mud. Frequently the tails hang weighted down with balls of manure and mud caused by cows having to lie with no bedding or insufficient bedding to absorb the moisture of the stable. Such cows never feel a curry comb. As a result after milking the milk is well tainted with the dirt from the udder and the hands of the milker appear as if walnuts were being hulled. In the spring the cows with this negligent care lose the hair on both hind legs and they become as bare as any hide having acid applied to remove the hair.

Yet with the cows stabled in this manner the farmer wonders why the flow of milk is greatly diminished. He is sure that he feeds a sufficient amount of grain and "rough" feed and is positively certain that he has good milkers. Occasionally he remarks that he would not think the matter so strange if the cows were compelled to stand out at nights, braving all kinds of weather. Yet he never suspects his stable floor or bedding.

With a little forethought, expense and time such a farmer could have his cows giving a good flow of milk on the same feed. He could cement his cow stable, raising the main part of the floor sufficiently high to make a trough behind the cows. Under this management much less bedding is required and the shaggy cows with bare legs are unknown. It is much more pleasant to milk in a well-cemented, dry stable than in a wet, soggy stable, for then one does not have to get a fork or straw to scatter about the cow each time he milks.

Like all other manufacturing institutions, the profits of the dairy factory depends upon cost of production.

Hamilton Plows for Long, Hard Service



It takes a real plow to make good with the plowing experts of Eastern Canada. Therefore, we take pride in the fact that the Hamilton No. 126 sulky meets with their approval. Partly because it is adjustable to all conditions, partly because it is easy to operate, but mostly because it is built to do first-class plowing for many years this sulky has made good.

Note the handy pole shift. With it you can instantly change the landing of the beam, straighten crooked furrows, adapt the plow to side hill plowing and to the turning of short corners.

The Hamilton 126 is a two-wheel sulky with a horse lift—a single type that is remarkably easy to operate. The horses do practically all the work, yet the draft of the plow is so light that they do a full day's work with it.

The Hamilton line also includes walking gangs, two-way plows, and a choice assortment of walking plows. All are made with the thoroughness you will find in the 126 sulky. Note the new spring beams and long handles of the walking plows.

Will you please send us your name and address so that we can mail you our Hamilton plow folders? Write to the nearest branch house.

INTERNATIONAL HARVESTER COMPANY OF CANADA, Limited
Branch Houses
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask. Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
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PULVERIZED LIMESTONE
CLAIRMONT BRAND

Pulverized Limestone is recommended by all Departments of Agriculture, Experimental Stations, County Demonstrators and Farm papers throughout United States and Canada.

A large proportion of the soil in this country becomes Acid, or Sour, and requires Limestone to Sweeten.

If you want big yields from your crops, order Pulverized Limestone.

CLAIRMONT BRAND IS HIGH GRADE.
LOW QUOTATIONS ON CAR LOTS.

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C. H. PETERS SONS, LTD.

Manufacturers. ST. JOHN, N. B.

Works at Torryburn Station, I. R. C.

WAS WEAK and RUN DOWN

SUFFERED WITH "NERVES."

Many women become run down and worn out by their household cares and duties never ending, and sooner or later find themselves with shattered nerves and weak hearts.

When the heart becomes weak and the nerves unstrung it is impossible for a woman to look after her household or social duties.

On the first sign of any weakness of either the heart or nerves, take Milburn's Heart and Nerve Pills, and you will find that in a very short time you will become strong and well again.

Mrs. J. A. Williams, Tillsonburg, Ont., writes: "I cannot speak too highly of Milburn's Heart and Nerve Pills. I suffered greatly with my nerves. I was so weak and run down, I could not stand the least excitement of any kind. I believe your Heart and Nerve Pills to be a valuable remedy for all sufferers from nervous trouble."

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

LIVE STOCK.

THE SOLDIER AND THE SHEEP

Crops of Wool and Lambs can be Raised by Men who cannot till the Soil.

"The Soldier and the Hen" was the title of a paragraph published recently describing the way in which soldiers had taken up poultry-raising at some of the Military Hospitals Commission's convalescent homes.

Poultry raising is one of the outdoor occupations available for men too badly disabled for general farm work.

Several kinds of farm work, however, are within the powers of men partially disabled and one of these is sheep-raising.

Mr. J. H. Grisdale, Director of the Dominion Government's Experimental Farm system, has kindly sent the Military Hospitals Commission the following article on "Sheep farming for returned soldiers":—

Agriculturally, Canada is and has been a land of big things. Sheep, however, though great money-makers in many other countries, have received anything but the attention their possibilities well merit in this country, and climatic conditions seem fav-has been proven to include extensive areas highly suitable to the successful pursuit of the sheep-breeding industry, and climatic codnitions seem favourable in practically all parts of the Dominion.

One peculiarity of this industry is its suitability to either fertile or inferior lands. Much money has been made with sheep on farms where no other line of farming could possibly have been followed.

Another peculiarity is that it may be conducted either on a smale scale, earning a satisfactory income, or on a very large scale, building a fortune. The single-handed farmer with his tidy little flock of high grade ewes is sure of a comfortable income while the rancher with his wide scattered flocks and his hired shepherds may be easily on a financial par with the Railway President.

A Most Attractive Line

To the soldiers returning warwearied to peaceful pursuits in this country, in my opinion no single line should prove more attractive than sheep-farming. Even though previously entirely innocent of any knowledge in this connection, one really interested can easily and quickly get into the business. A few months spent where sheep are kept, then a little bit of cheap land, a few nice grade ewes awith a right good ram, and the thing is on its way.

The initial investment is small, the daily labor is light, and the sum of work for the year much less than with most other lines of live stock. Besides, the work is of such a character that great physical strength or robust heath is not essential to success, though these conditions are usually most necessary to farming.

There is plenty of room, there are many farms ready and waiting for thousands of small sheep farmers, in Nova Scotia, New Brunswick, Quebec and Ontario, to say nothing of the prairie provinces and British Columbia.

Anyone at all interested in making a living in this country, with a minimum expenditure in capital and labour, cannot afford to neglect the possibilities of this most attractive industry, for its present returns are most satisfactory, and even when war prices fall there is no reason why its future should not continue to prosper. —By J. H. Grisdale, B. Agr. Director of Experimental Farms.

To Every Woman Who Is In Pain

MRS. WILLIAMS SAYS USE DODD'S KIDNEY PILLS

She Suffered for Two Years, but Three Boxes of Dodd's Kidney Pills Made Her a New Woman.

Adamsville, Kent Co., N. B.—(Special.)—"I can recommend Dodd's Kidney Pills to every woman who suffers." So says Mrs. Williams, a well-known and highly respected lady residing here. Mrs. Williams was a sufferer for two years till she used Dodd's Kidney Pills. She found in them quick relief and complete cure. That is why she is so enthusiastic in her praise of them.

"My troubles started with a cold," Mrs. Williams states. "I never seemed to get over the effects of it. I had cramps in my muscles and my joints were stiff. There were dark circles under my eyes which were puffed and swollen. I had a bitter taste in my mouth and I suffered from severe headaches.

"I felt heavy and sleepy after meals and had attacks of neuralgia. Heart flutterings and rheumatism were soon added to my troubles. I took just three boxes of Dodd's Kidney Pills. I cannot be too glad that I did so."

Every one of Mrs. Williams' symptoms was a symptom of kidney disease. That is why Dodd's Kidney Pills cured her.

MEDICINE CHEST FOR THE LIVE STOCK

A well-equipped medicine chest, skilfully used, often proves the salvation of valuable breeding and work animals.

On farms where livestock is the chief means of revenue the following list of drugs, disinfectants, worm powders, blisters and accessories should be on hand:—

1. Beechwood creosote and camphor for horses suffering from distemper and influenza.
2. Turpentine for bloat in cattle, colic in horses and worms in horses and hogs.
3. Pine tar for colt distemper.
4. Epsom salts as a purgative for cows, sheep and hogs. It should not be given to the horse.
5. Raw linseed oil as a purgative

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil.

One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98

T. E. BISSELL CO., LTD., Elora, Ont.

On the Job Laying Though Snowed In

Under the most severe weather conditions, you will get plenty of eggs if your hens are properly housed and *fed* Royal Purple Poultry Specific as directed.

Jno. Cutting, Ospringe, Ont., writes as follows:

"Dear Sirs,—Kindly send me your free booklet on Stock and Poultry. I have used your Poultry Specific all winter, and I would not want to be without it. For fattening chickens, and making hens lay it can't be beaten. I have also used the Stock Specific, and find it as represented."

Royal Purple Poultry Specific

In summer, fowl get grain, herbs, grass and insects, which are Nature's assistants for producing eggs. In the winter and spring, fowl get practically the same grain, but must have a substitute for the herbs, insects. Royal Purple Poultry Specific, manufactured from Roots, Herbs, Minerals, etc., is a most perfect substitute, increases the egg production at once, and makes the hens lay as well in winter as summer—keeps the fowl active, vigorous and healthy—prevents chicken cholera and kindred diseases.

Sold in 25 and 50c. packages, also $1.50 and $5.00 air-tight tins. We also manufacture Lice Killer, 25 and 50c. packages; Roupe Cure, 25c.; Disinfectant, 25c., 50c., $1 sizes.

Secure these products from our dealer in your town.

W. A. Jenkins Mfg. Co., Limited
London, Canada 34

FREE BOOK

Write for FREE 80-page booklet describing all common diseases of stock and poultry. It tells how to build henhouses and how to raise calves without milk.

Secure More Pails of Milk From Your Herd

Royal Purple will increase the flow of milk from 3 to 5 lbs. a day if used according to directions. Mr. Norman C. Charlton, Scott, Sask., states:

"I am from Ontario and fed your Royal Purple Stock Specific when in Brownsville. My cows made the largest average and tested 5 pounds over average at C. M. P., Brownsville. I believe you make the best conditioner on the market."

Royal Purple Stock Specific

The great farm animal conditioner and fattener is used in almost every progressive stock-raiser's stable in Canada. Good for all stock in a run-down condition. Can be used occasionally or continually without showing bad after-effects. Royal Purple Stock Specific is purely a digester and blood purifier. It aids digestion to such an extent as to produce the very best results, and obtain the maximum amount of good from the food eaten. It will enable you to fatten your steers and hogs a month earlier, thereby saving a month's feed and labor.

Mr. Malcolm Gray, of Komoka, states:

"In regard to the feeding of Royal Purple Stock Specific, I had two lots of hogs. To the first lot I fed Royal Purple Stock Specific and when I sold them they averaged 196 lbs. each. On the second lot I did not use Royal Purple Stock Specific, and at the same age they averaged only 150 lbs. each. They were both the same breed and one lot had as good a chance as the other. We have also fed Royal Purple Poultry Specific with excellent results."

Royal Purple Stock Specific is put up in 50c. packages and large $1.50 and $5.00 tins. Secure our products from our dealer in your town. Write for free booklet on how to treat all common diseases of stock and poultry. Tells how to build hen houses and how to raise calves without milk.

W. A. Jenkins Mfg. Co., Ltd.
London - Canada 36

Advertise in the Maritime Farmer for Results

Ventilation stops fires saves health

Proper ventilation will prevent fires from spontaneous combustion

"HALITUS" Ventilator

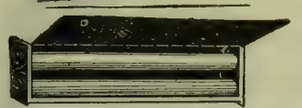
For barns and houses. Very simple, very efficient, very durable. Rain-proof.

"ACHESON" Roof Light

Very easy to put on. Extra strong, durable and watertight. Movable or stationary sash.

"KING" Ventilator FOR BARNS

An inexpensive and ornamental Ventilator. Grand value. Ask us for prices.



"SPIRO" Intake Ventilators

Fresh air without drafts. Swinging damper. Keep the air pure and your stock healthy.

Write to-day for prices and booklet on "M-R. Co." building materials. 175

METALLIC ROOFING CO. LTD.
TORONTO & WINNIPEG

THINKER OR DOER, WHICH TYPE ARE YOU?

Someone rightfully says, People can be divided into two main classes, the thinking type, those who plan or plot or map out a true policy of business and the Doer type who put the plans into action—the production end of the business.

Putting Thinkers into jobs that call for the other class of men is like putting round pegs into square holes, misfits—inevitably spells disaster for the business and failure for the men.

Proper direction of your job-selection is included in our Service. It is worth much to you

Moncton Business College, Moncton, N. B.

G. J. Schmidt, Principal

Try an Ad in the FARMER

for the horse.

6. Aloes as a horse purge and for dusting wounds. An animal will not bite a wound covered with aloes.
7. Boric acid and burnt alum as dusting powders and astringents.
8. Castor oil is a purge for foals, lambs, calves and pigs in constipation and diarrhea.
9. Blue vitrol as an antispetic astringent and deodorant.
10. Sweet spirits of niter to reduce fever—given in doses of a half to one ounce.
11. Carbolic acid as an antiseptic in washing wounds, abscesses and fistulas. It is best used in three to five per cent. solutions. It is also given hypodermically for aboration, in doses of ten cubic centimeters of a two per cent solution every ten days to two weeks.
12. Calomel given with santonin for killing worms in horses and hogs. From one to two grains of calomel and a half to two grains of santonin constitute a dose.
13. Blue ointment to fr e cattle from lice.
14. Corrosive sublimate—poison—probably the best and the cheapest antiseptic, used in solution of 1 to 1000 parts of water.
15. Potassium iodine for ringworm and for reducing sprains, capped hocks and elbows and bog spavins.
16. Glauber salts as a mild purge for cattle and horses.
17. Olive oil and vaseline for overcoming inflammation and irritative conditions.
18. Blister for ring-bone, spavins and splints: 1 part red iodide of mercury; 1 part Spanish fly; 8 parts vaseline.
19. Worm powder for horses; 3 ounces iron sulphate; 3 ounces nux vomica; 3 ounces American worm seed; 1 quart linseed oil; 3 ounces turpentine; 1 ounce aloes.
20. Thermometer with pear-shaped bulb and chain.
21. Trocar.
22. Cotton and bandage.

A FEW REASONS FOR OPTIMISM IN THE SHEEP BUSINESS

"The returns are much quicker and larger than from any other kind of live stock. The sale of the wool and lambs will practically bring in the original cost in one year, and at a very small cost and work. It is not necessary to feed them large quantities of high-priced grain but cheap fodder and hay and straw and pasture.

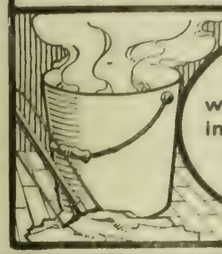
"All other live stock except horses depend on the sale of meat for returns but not so with the sheep, for they have wool which can be grown on sheep only and there is no substitute.

"The only profitable way to fight weeds is with sheep; they make money while they are destroying weeds. When it comes to grain raising no farm is complete without sheep, for they pack the soil, thus preventing drifting, and also fertilize.

"Shep are especially easily handled. It is true there is a little expense in fencing, but not as much as most people suppose. Nearly every farmer has his land or part of it fenced with barbed wire, and it is an easy matter to raise up the lower strands and slip on the woven wire. Then the farmer has a fence that is a fence. it will keep in all kinds of live stock and prevent him from losing valuable horses with wire cuts.

"Sheep raising is especially profitable and the future is very bright, for there is a great world's shortage of wool and mutton, beside there are fewer sheep in Canada and the States than formerly."

GILLETT'S LYE



HAS NO EQUAL

It not only softens the water but doubles the cleansing power of soap, and makes everything sanitary and wholesome.

REFUSE SUBSTITUTES.

PURE BREDS RETURN MOST PROFIT

A comparison of the yearly incomes of 124 farms where pure-bred bulls were kept at the head of the dairy herd, with 466 dairy farms where a grade bull was used, has been made by the Illinois agricultural college. The average farm income for the first list of farms was $1102 after deducting taxes, interest on investment, etc. Where a grade bull was used the farm income was $734. On 83 farms where scrub bulls were used the farm income was only $243, or only half enough to pay interest on the investment, to say nothing about any pay for the owner's time.

To know what every cow produces during the month and the cost of producing stimulates interest in the cows as individuals and causes the whole family and the hired man to take a new interest in the business.

Is Your Cow a Machine?

THE modern dairy cow is a milk-producing machine. **You** put in the raw material—food. **She** turns out the finished product—milk. The ever-increasing demand for pure, clean, rich milk is responsible for the present necessity for keeping the cow always on the job. To maintain production at top notch it is absolutely necessary to keep the cow in perfect health. A tablespoonful of

Pratts COW REMEDY

2-lb. tin, 50c; 4½-lb. tin, $1.00; 12-lb. tin, $2.00; 25-lb. tin, $3.50. At your Dealer's.

gives zest to the ration, aids digestion and enables the cow to get every last bit of nourishment out of the feed. Keeps well cows well—makes sick cows better. GUARANTEED to increase the flow of milk, and preserve perfect health. Contains no filler, middlings or other cereals, but is all medicine. Does not impart a druggy or foreign taste to milk or butter.

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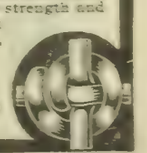
are so rigid—so strong—so thoroughly and scientifically braced that even after years of service they retain their original firmness. If properly hung, there will be no dragging on the ground—no necessity for having to lift or carry the gate open or shut. It will always swing easily and always hold its shape.

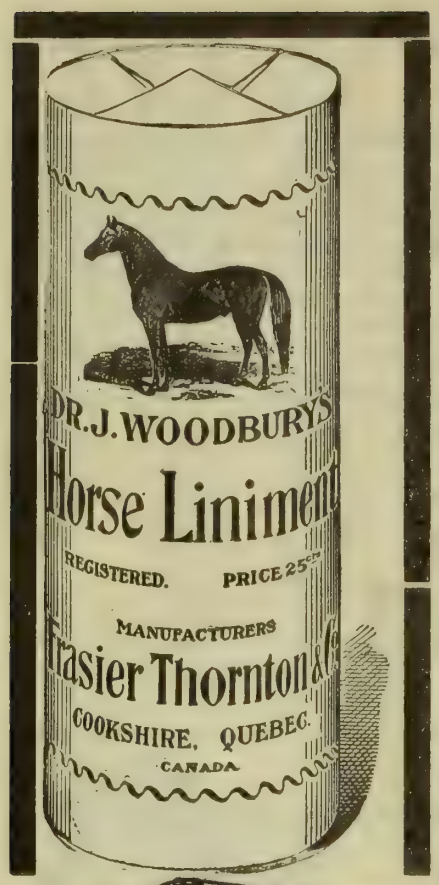
Made of Best Materials

Frame work of 1¾-inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with No. 9 Open Hearth galvanized steel wire—built for strength and durability—weather proof and stock proof. Send for free catalog. Ask about our farm and poultry fencing, also our ornamental fence and gates.

Agents nearly everywhere. Agents wanted in open territory.



THE BANWELL-HOXIE WIRE FENCE COMPANY, Limited
Winnipeg, Man. Hamilton, Ont.



THE HORSE

FEED AND THE HORSE

They were an honest pair of live workers and young, but it was with difficulty that the city man was induced to buy them at $150 less than some fat ones. By the following year they had shaped up and made at least $100 from improved condition and efficiency. In the hands of their first owner these horses would never have been worth the money, as he fed as some people coal a stove, by little driblets. Never accumulating a body of fire and heat the stove is always about 50 percent below its potential, and so were his horses. A large fire and an open window looked like waste to this man. Whenever his horses stopped work the grain was withheld. He was a good man from whom to buy horses; they never brought what they were worth; they were never in shape.

A mile away was a farmer whose horses were always ready for the sale-ring when he wanted to dispose of them horse buyers flocked to his place, as there they found the reserve of flesh that is demanded by city buyers. Even farmers would buy horses from him. He had a reputation, entirely fictitious, of owning the best horses. He really kept only the fattest ones. His eye searched out good feeders rather than those with sound bottoms. He made money. He sold people what they wanted, but a real horseman who wanted work stock for use was apt to pass him by.

There is an astonishing number, even of country people, who worship at the shrine of the fat horse, and who somehow never seem to grasp the fact that hay, oats, corn, grooming and fresh air will bring forth flesh and fat no matter who owns a horse. They buy fat and sell thin, if they can find a customer.

The measure of a horse's feed is what it takes to keep it. It is not in a book, but in the horse's capacity for assimilation. Throw away that old tin can that holds 4 quarts and get one that will hold enough at one trip, however much the horse may need. If one buys an auto that consumes more gallons per hundred miles than another, that is unfortunate, but not to be remedied by withholding gasoline.

"Never traveled up with his mate," remarked a farmer of one of his horses, a gaunt, cadaverous animal with room for a pillow between hip and rib. The other was a short, smaller, rather short-stepping chunk. "Do you feed them the same?" he was asked by the man who bought them. "Oh, yes, just the same, always the same," he replied. The new owner applied a different method. He threw in the feed to the emaciated one and in a few months he outwalked the chunk. Having attained enough energy to gather quickly he outstrode the little one. He was a pearl of price.

No man can be happy working ill-matched and unevenly-gaited teams. They are trying to the sweetest disposition. Judicious feeding makes happy days.—L. Ogilvy, in Breeder's Gazette.

WHAT TO USE FOR BEDDING

Straw makes the best absorbent, keeps the animals clean if used abundantly and adds materially to the value of the manure pile. Wheat or oats straw are cheap and abundant on most farms, or easily procured. Rye straw is tougher, can be dried and used several times and for this reason is most desirable for use in horse stables. It is readily salable and in many markets brings nearly as much as good hay.

Swamp hay is fully as good as straw. Leaves absorb water fairly well, add some value to the manure, but do not wear well. They are generally expensive to gather in large quantities. Cut or shredded cornstalks are most excellent, but are generally too valuable as a food to use for bedding.

Shavings and dry sawdust are clean and good absorbents, easy to handle, but in themselves add no value to the manure. Muck and peat, if dry, are very fine absorbents, but are not clean in stables and are expensive to get out and dry. Nothing can be said in favor of sand. It is dirty, a poor absorbent and heavy to handle.

CURING A BONE SPAVIN ON HORSE

Please advise cure for a bone spavin on horse. He has had it for 18 months and it quite lame at times.—Farmer, Sydney, N. S.

Ans.—The spavin in your horse has apparently run into the second

VETERINARY COURSE AT HOME

Taught in simplest English during spare time. Diploma granted. Cost within reach of all. Satisfaction guaranteed. Have been teaching by correspondence twenty years. Graduates assisted in many ways. Every person interested in stock should take it. Write for catalogue and full particulars . . . **FREE**

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HORSE COLLAR PADS IMPROVED

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TAPATCO PADS, long-time favorites, are now further improved by the new patented staple and felt reinforcing device, shown at right in a small cut of pad, and immediately above in almost working size.

This new attachment gives the hook a larger, firmer hold and prevents it coming off easily. This attachment is

Found Only on Pads Made By Us

Look for it when you buy pads. No other attachment will give you equal satisfaction and service.

Ask your dealer for the free Tapatco booklet showing Tapatco pads in various colors and containing many valuable horse remedies. If your dealer hasn't this book, request him to write us direct for it.

We also make a complete line of Riding Saddle Pads.

Sold by dealers everywhere.

The American Pad & Textile Co.

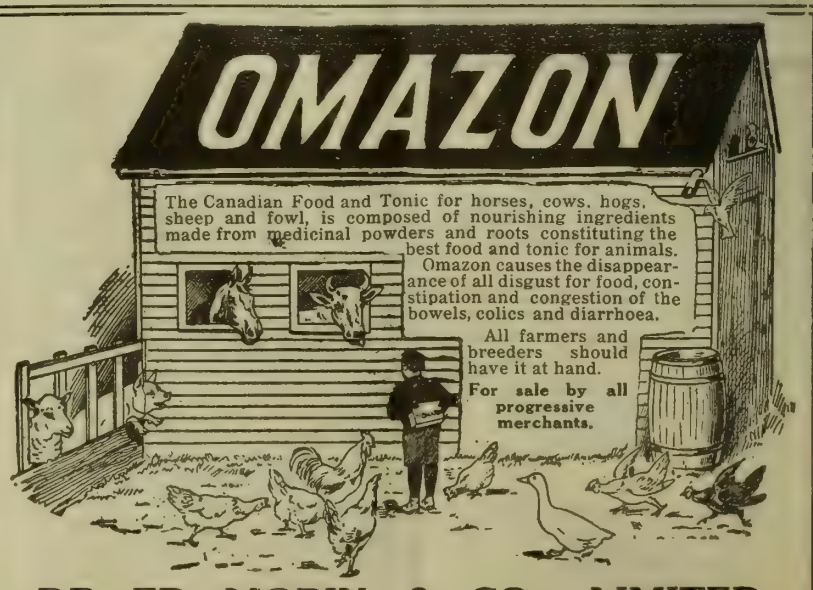
Main Office and Plant, Greenfield. Ohio, U. S. A. **Chatham, Ont.**

Clip off the hair on the part and rub on the blister; after twelve hours smear fresh lard once a day till the scabs are all off and the skin nearly healed, then repeat the blister, and so on till he is cured. The horse must be kept quiet while undergoing treatment.

COLLAR GALLS

Tannic acid is one of the very best remedies for collar galls. It can be secured from any drug store, and is easily applied by rubbing lightly over the collar every morning and evening if the horse is working.

OMAZON



The Canadian Food and Tonic for horses, cows, hogs, sheep and fowl, is composed of nourishing ingredients made from medicinal powders and roots constituting the best food and tonic for animals.

Omazon causes the disappearance of all disgust for food, constipation and congestion of the bowels, colics and diarrhoea.

All farmers and breeders should have it at hand.

For sale by all progressive merchants.

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QUEBEC, CANADA

Butter Parchment at the Farmer Office

Good For Man And Beast

Kendall's Spavin Cure has now been *refined* for *human* use. Its penetrating power quickly relieves swellings, sprains, bruises, and all forms of lameness. It is just what you need around the house. Write for many letters from users to prove its effectiveness.

T. J. Smith, Spencedale, Ont., says—"Have used Kendall's for many years in my stable and house and it never has failed us yet."

Kendall's Spavin Cure

—has been used by horsemen, veterinarians, and farmers for over 35 years. Its worth has been *proved*, for spavin, splint, curb, ringbone and the many other hurts that come to horses.

For Horses —And Refined for Man.

ONION LAKE, Sask., April 22nd, 1915.

"Kendall's Spavin Cure is about the best all-round liniment for both man and beast that I know."

THE HUDSON'S BAY COMPANY.

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Get Kendall's Spavin Cure at any druggist's. For horses $1. bottle, 6 for $5. Refined for man 50c.—6 for $2.50. "Treatise on the Horse" free from druggist or write to

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will remove them and leave no blemishes. Reduces any puff or swelling. Does not blister or remove the hair, and horse can be worked. $2 a bottle delivered. Book 6 K free.

ABSORBINE, JR., the antiseptic liniment for mankind. For Boils, Bruises, Old Sores, Swellings, Varicose Veins, Varicosities. Allays Pain. Price $1 and $2 a bottle at druggists or delivered. Will tell more if you write.

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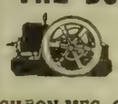

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BOOK ON DOG DISEASES And How to Feed

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H. CLAY GLOVER CO., Inc. 118 West 31st Street, New York

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POULTRY.

MEETING OF THE NOVA SCOTIA POULTRY ASSOCIATION

The annual meeting of the above association took place at the Agricultural College, Truro, N. S. on Thursday January 11th, at 7 p. m. The President, Mr. Frank E. Jackson, North Sydney, in the chair.

The minutes of the last annual meeting were read and approved. The delegates reported for the different clubs.

E. H. Dodge reported that their club held a show but were unable to bring out the balance on the right side of the account.

Mr. W. T. Mattinson reported for the Glace Bay Club and stated that their show was held and the balance was $100.00 on the profit side of their account.

Mr. Fred Bath reported for the newly formed club for Annapolis County and stated that they expected to hold the first show this winter and would use every effort to keep the balance on the proper side of the account. It was also their intention to use a band to draw the crowd to the show. He was in favor of giving all assistance possible to the members and their clubs to carry the shows to a successful finish.

Mr. E. E. Frehill, reported for the Egerton Poultry Club of New Glasgow. They had held a show and it was their eighth annual effort. It was hard to get funds enough to run the show but their officers had placed a note in the bank which enabled them to raise the money they needed.

Mr. C. F. Bowes reported for the Halifax Poultry and Pet Stock Club. He stated that it was their intention to hold a show during the coming winter and they had now about seventy valuable special prizes, including several silver cups.

The secretary gave a report of the work done over the province. Ten club shows were held in as many different counties and at all, interest was keen for the prizes. The different shows were revived and some suggestions were given for the improvement of the shows. It was also pointed out that it was not likely that any more assistance would be forthcoming for show purposes for some time.

The President and Mr. Mattinson called the attention of the members to the very unsatisfactory building in which the poultry exhibitors were compelled to show their fowls at the Sydney exhibition. It was moved and carried that the secretary write the Secretary for Agriculture asking that the grants available for poultry at this exhibition be withheld until this building is put into a satisfactory condition or a new one erected for the poultry exhibitors.

Mr. Bath called attention to the resolutions passed last year re standardizing eggs for export and the secretary was instructed to find out what action was taken in this important matter. Several members called attention to the habit of retail dealers displaying eggs in store windows exposed to the sun and it was decided to have the secretary draw up a letter similar to the one used last year calling attention to this oversight and asking merchants and dealers to use display cards and to try and keep the eggs in the coolest place in the store.

After some discussion it was decided to ask the Department of Agriculture at Ottawa and the Director of the Experimental Farms, Ottawa, to put on exhibition, and educational exhibit of poultry and eggs at each and every one of our provincial club shows.

The question of ways and means of carrying on the shows brought out a great deal of discussion. It was decided that the secretary try and get the consent of the new Commissioner for Agriculture to use some of the federal grant to help out the poultry

(Continued on page 242)

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Gombault's Caustic Balsam will give you immediate *Relief.* A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam

The Great French Remedy Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."—Ed. Rosenburg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, $1.50 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

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6 a.m.—

There's Success in His Wake

BIG BEN at six a. m. for the big man of business—who knows the luxury of ample time—who's up before duty insists. Try Big Ben in the business of living. Set him a little ahead.

To get your salary up, a year of Big Ben get-ups is better than a *pull* with the Boss. You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—good-right good.

Big Ben is six times factory tested. At your dealer's, $2.50 in the United States, $3.00 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

Westclox make more than three million alarms a year and no two keep well. All because are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

LaSalle, Ill., U.S.A. Western Clock Co. Makers of *Westclox*

Other Westclox: Baby Ben, Pocket Ben, America, Jerry, Sleep-Walker, Dreadnaught, Tom Boy

FOR HOME AND COUNTRY

This Department is devoted to the best interests of the Homes of the Maritime Provinces. Contributors to these columns are leaders in the "For Home and Country" movement. This Department is yours. Use it to the best advantage by sending us timely suggestions, short articles dealing with your experiences, and reports of your Institute meetings.

ONE GOOD TURN

(Continued from last issue)

While Jimmy convalesced in the pretty little room, Judge Gray, being of the newer school of philanthropists which believes in putting the means of subsistence within the reach of everybody, did some "scouting" for the youngster.

He found a paper route where Jimmy could deliver morning and evening editions before and after school. A tiny room was engaged for him under the eaves of Mrs. O'Brien's flat in Rivington Street.

For two dollars per week Jimmy was to have this room and two meals a day, breakfast and supper. His paper route would bring him three dollars and a half per week. A whole dollar and a half for clothes, a little judicious amusement, modest noon-time lunches and other necessities!

The day he donned the new suit of clothing which Miss Granger laid upon the chair beside the bed, his heart swelled almost to the point of being a painful burden. But when he discovered that there were pockets in the suit; all the pockets he could possibly use, before and aft, and in the coat and the trousers, his eyes filled with tears, and he wanted to pray. Perhaps he did pray, in his way, since within him was born a great desire to show his friends in some way how thankful he was for benefits received. For after all, about the best way to pray is through kind acts.

A week passed uneventfully. Jimmy returned to school, and morning and evening he shouldered his bag of papers and delivered them to his customers. Some trouble might have been anticipated from his small school companions who had seen him ignominiously fleeing from the wrath of the coming Ikey Goldberg. But his return was attended by a sartorial brilliance and a wide business scope that dazzled his young associates.

Rivington Street ethics are not so different from those obtaining upon more pretentious thoroughfares of the great city, and success means a looking upward by those below.

Two by two, as the animals are said to have gone into the ark, Jimmy's little friends of the masculine gender were asked to explore the glories of his eyrie under Mrs. O'Brien's eaves. Miss Granger had caused this room to be raised to the "nth" power of cleanliness, and she had made it bright and pretty with rag rugs, cheap chintz and good prints.

With awe the boys would tiptoe in, glance around and remain standing while Jimmy exhibited the plethora of pockets which his new suit possessed. Izzy Rosenbloom voiced radical childish wisdom as he inspected Jimmy appraisingly.

"Yer've got 'from' gold in yer hair, 'n' yer've got white skin 'n' yer eyes is blue. Yer a purty boy. I wonder wot they'd er done to me?"

Izzy inspected his eagle's beak and brown skin in Jimmy's little mirror with intense dissatisfaction.

Unarmed intervention was required to restore peace. Jimmy sensed in Izzy's innuendo a reflection upon the disinterested motives of his friends. The insult to himself he overlooked. "A purty boy" His cheeks glowed with shame.

Before starting upon his rounds in the evening Jimmy always reported to Miss Granger to be "inspected" for he was on probation as the law requires of juvenile offenders.

Came an occasion when he rang the bell of Miss Granger's flat as was his custom. When the little maid-of-all work ushered him into the pretty living-room he found his young patroness lying upon the sofa, her face burrowed into a pillow. Her beautiful hair, which was usually so tidy, was all tumbled.

"Miss Granger, wot's the matter?" he queried, stammeringly, shuffling from one foot to the other.

He had never even dimly suspected that his pretty lady ever cried. It revealed a whole new vista of possibilities to his childish mind.

Miss Granger extracted her face from the pillow. Her cheeks were wet with tears.

"Jimmy, you remember little Elise don't you?"

"Why, yes'm, yes'm."

"She is very ill, Jimmy, and oh, if I had known my own heart better I might have been up there trying to save her, helping to nurse her."

She appeared to have forgotten the boy. Her eyes gazed past him .

"I've taken a terribly restricted view of life, I fear," she murmured, in self-communion.

Two big tears rolled down her white cheeks from which the faint red of the pomegranate had faded.

This was not to be borne. Into Jimmy's mind flashed an idea. He dashed madly out of the flat and almost tumbled over Izzy Rosenbloom. Then and there he bartered with Izzy. For twenty cents, cash in hand, the little Hebrew promised to distribute the evening papers according to the list in the bag.

Jimmy sought the corner drug-store and asked the man to please find the number of Judge Gray's house in the telephone-book. The drug-clerk wrote it upon a card for him. Jimmy seized the pasteboard, dashed out of the place and sought the first elevated station on the Second Avenue line that offered a passage uptown.

It seemed to him that the time was now come when he might be of use to the friends who had done so much for him.

Some of Miss Granger's words had been quite cryptic. But he had understood enough to deduce that Miss Granger would like to help nurse Judge Gray's little girl, but because of "a terribly 'stricted view of life," the jurist would not permit her to do so.

"'Stricted view of life." He repeated the words over and over so that he might not become entangled when he was explaining to the judge what he had heard, and beg of him to remove the embargo from Miss Granger.

Jimmy alighted at Seventy-Second Street. On the way he had conferred with the guard about what direction to take. So he headed straight for Fifth Avenue, running swiftly. Having reached the stately thoroughfare which looked very strange to him, so dimly lighted it was, and deserted, he searched for the number, and after two attempts found it.

It was a big graystone house. The boy's heart thumped with fear at such grandeur. But he clambered up the stone steps and firmly pressed the button.

The door opened and a pompous individual appeared. Two rows of silver buttons decorated the front of his coat. Two little tufts of hair smugly decorated his cheeks, and his hair was severely divided by a white line which began at his forehead and disappeared somewhere at the rear.

"I want to see Judge Gray," piped Jimmy, bravely.

"'Ave you a message or a parcel, or somethink?"

"No, I just want to see 'im; I've gotta see 'im."

But the man had impressively closed the door in his face.

The boy's unpreparedness for such tactics was equaled only by his resultant determination. He sat down upon the stone step and waited.

For an hour he was unmolested. Then one of his blue-coated and brass-buttoned enemies happened by and roughly advised him to get a move on.

He moved on, but when the "copper" had passed from sight he oscillated back again. He grew cold and hungry, and after a time he slept. His last drowsy thought was that he must remain by his post until the message from Miss Granger was delivered to Judge Gray. He wondered, too, how the little girl was. He hoped she was not going to die, as Sam had done. It seemed terrible to die.

The policeman wakened him by shaking him until his freckles rattled. Like Mike, this bluecoat was a Milesian.

"W'at yez doin' here anyway, youngun?" he asked.

"I want to see Judge Gray; I gotta see him," drowsily murmured the boy.

"There's but one place ye can see 'im," replied the officer, with heavy sarcasm, "an' thot's where the likes av yez is allus seein' 'im, which is the court."

Jimmy blinked.

"Take me to jail then, 'cause I got to see 'im."

"No charge," grinned the officer.

Jimmy was wise. So he made a charge. He did it deftly with his head that was covered with "from" golden-brown hair. Said crown landed neatly into the peace-guardian's breathing-station and made him very cross.

Jimmy got into the station-house in a trice. The next morning found him red-eyed and disheveled, again standing before Judge Gray. The jurist's brow, was clearer this morning. During the night his little daughter had won her fight with death.

The judge looked down and recognized the little culprit. His eyes widened with concern.

"Why, Jimmy!"

The jurist's voice was stern. He had possessed so much faith in the parole system—and in Jimmy.

"What's the charge, officer?"

"He was settin' on yer door-sthep like a hen, yer honor, sayin' he must be afther seein' ye. An' whin I told 'im where the likes 'av 'im was mosht likely to see yez, he near knocked the wind from me wid a butt in the stomach."

"Come here, little man," invited the judge, patiently. "What was it you wished to see me about?"

The boy eyed the judge frankly.

"I got somethin' to tell ye. I got to stand by my friends w'at stand by me, if I do go to jail."

Then he explained. He was voluble, illuminating, inspiring. He played up the tears that had coursed down Miss Granger's face. He gave her a recommendation as a nurse that would have landed her in any hospital. He remembered the very words with which she had bemoaned her "stricted view of life." He pleaded for her with all the untutored eloquence of his warm young years. He gazed with grave reproof and accusation upon this jurist who had declared some embargo upon her. As an almoner of Cupid, Jimmy was a distince success.

All at once court was abruptly if temporarily suspended. An emissary was dispatched. Miss Granger was asked to come to Judge Gray's private room immediately.

And as Jimmy, surnamed by courtesy Epstein, waited philosophically outside in the courtroom for sentence to be passed upon him, within the little room Judge Gray was holding very close to the judicial robe a slender, graceful figure. Two yielding lips upraised to his own were of the color of the heart of the pomegranate.

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TASTY TEA BISCUITS
TRY IT!
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PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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WHOOPING COUGH.

Every Mother should know that

VENO'S IS A SURE AND SAFE CURE.

No cough sufferer can fail to benefit from the use of Veno's Lightning Cough Cure. In Whooping Cough its quick, sure relief is something to wonder at. The child gets relief almost at once and as the treatment is continued the attacks become less violent and less frequent till they cease altogether. Never believe that Whooping Cough must run its course. Use Veno's, and you will know that it can be cured at any time. Being free from dope, it is absolutely safe. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

Fertilizer Quality

When you buy a ton of fertilizer remember you are buying what is in the goods and not merely two thousand pounds.

When a smelter buys a ton of gold ore he insists on knowing the number of ounces of gold it contains, and you should know the amount of active Nitrogen, Nitrate of Soda, the gold of the fertilizer.

Write for Books

DR. WILLIAM S. MYERS
25 Madison Avenue, New York

ANNUAL CONVENTION OF N. S. FARMERS' ASSOCIATION

(Continued from page 232)

omics and Development. The views of the Directors were obtained through correspondence. These views were tabulated by Professor Cumming and used as part of his evidence.

A full meeting of the Directors was held at Halifax on Sept. 15. At this meeting the programme was roughly outlined, recommendations were made as to speakers etc., and a committee consisting of the Secretary, the President and Professor Cumming was appointed to complete the programme at the short course or just before the annual meeting.

In as much as the value of the Annual Report depends in some degree on its being in the hands of the members and others interested at as early a date as possible after each annual meeting, we urge that the report be printed annually and distributed if possible before the end of March in each year.

We also desire to record our protest against the increasing menace to decency and morality of the midway attractions at the Halifax Exhibition and recommend that the matter be fully discussed at this meeting with a view to improving this condition.

We also recommend, in view of the strong pressure being executed in some quarters to allow the importation and manufacture of Oleomargerine, that this Association record its satisfaction with existing legislation, and deplores any change in the law which would bring this product into competitive sale with pure butter.

Our program is replete with subjects of vital interest to the Nova Scotia farmer.

We hope every one here will feel that these discussions are free and that we will get the opinion of most of our delegates. Now that the election is safely passel we hope that our resolutions will receive the best attention of the Legislature, and that the farmer will have his wants increasingly considered by our law makers.

The Financial Statement

duly audited was distributed in printed form by the Secretary-Treasurer. It showed a substantial balance to the credit of the Association.

Report of Legislative Committee

To the President and Members of the Nova Scotia Farmers Association.

We your Legislative Committee beg to submit the folowing report: We were most cordially received by the Committee on Agriculture and by the Committee on Law Amendments; we were also asked to address the House on the question of having the Nova Scotia Temperance Act, apply to the city of Halifax.

The following resolutions were presented to the Committee on Agriculture:

1. The resolution as passed by the Farmers Association asking that by the year 1920, the use of broad tires be made compulsory on teams hauling proportionately heavy loads. A scale was worked out regulating the width of tire by the size of the axle. The Committee assured us that this matter would have their most careful attention.

2. We again this year urged upon the Committee the necessity of passing a law prohibiting the use of barbed wire in the building of line fences. We found some opposition from some of the members but the majority were strongly in favor of such a law being enacted.

3. We asked for the appointment of an Inspector of all stallions standing for service, and that such inspection be compulsory, and the owner be compelled to have the result of such inspection printed for the information of the public. The Committee was of the opinion that as this meant the appointment of a salaried official, the matter be deferred for another year.

4. The resolution asking for the cancellation of liquor licenses in the city of Halifax, was presented to the House, the result of which you all know, to your sorrow.

5. The resolution with regard to the "fakir element" at the Provincial Exhibition was presented to Mr. Hall, the secretary of the Exhibition Commission, requesting him to bring it before the Commission.

6. The resolution with reference to petitioning the Dominion Government to remove the duties on Commercial Fertilizers, was on request left in the hands of Prof. Cumming.

All of which is respectfully submitted.

WM. O'BRIEN,
W. W. BLACK,
Legislative Committee.

The foregoing report was received and the committee authorized to again press the various requests of the Association, so that something more definite may result.

Agricultural Societies and Association

Mr. F. L. Fuller submitted his report as Director of Agricultural Associations. There are 10,523 members of Agricultural Societies in Nova Scotia, a gain of 208 members during the year. The Director suggested that the date for holding annual meetings of Agricultural Societies be changed to one month earlier, so that secretaries will have ample time to send in their completed reports.

He also suggested that changes be made in the prize lists of some of the smaller exhibitions, so as to give a better competition that will prove more educative to the exhibitor and visitor.

One of the changes would embody the showing of all grade dairy cattle in one class, instead of in four classes as at present. This would give more competition in each section of the class and give the judge a chance to show by his placings the best types to breed. As conducted at pres nt there is very little chance to show the desirable characteristics as frequently, where the competition is restricted, the prize winners are not of a desirable type. The monies paid out in the four classes would be totalled for the one new class and the number of prizes extended according to the number of entries in the competition.

He would also like to see a change in the prize lists for potatoes, so that instead of having fifteen or more named varieties, there would be prizes for rose type; round white types, long white type and any dark skinned variety. This is desirable owing to the fact that he so often finds one variety

Baby's Own Soap

Best for Baby — Best for You

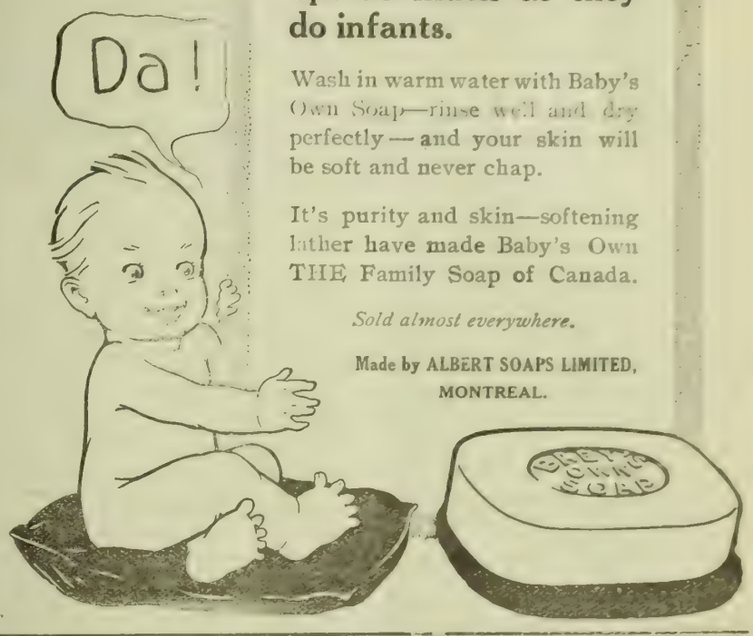
"CHAPS" hurt grown-ups as much as they do infants.

Wash in warm water with Baby's Own Soap—rinse well and dry perfectly—and your skin will be soft and never chap.

It's purity and skin—softening lather have made Baby's Own THE Family Soap of Canada.

Sold almost everywhere.

Made by ALBERT SOAPS LIMITED, MONTREAL.



Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
BOX 309 WINDSOR, Ontario

THE WINTER TERM
of the
Fredericton Business College
will open on
Monday, January 8th, 1917

Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

Address,

W. J. OSBORNE, Principal
Fredericton, N. B.

THRIFT! 1917. EFFICIENCY!

Free Ten Days' Courses
—IN—
HOME ECONOMICS
—AT—

Woodstock Agricultural School, FEBRUARY 20th to MARCH 2nd. FEBRUARY 6th to 16th.

Sussex Agricultural School, MARCH 13th to 23rd. MARCH 27th to APRIL 6th.

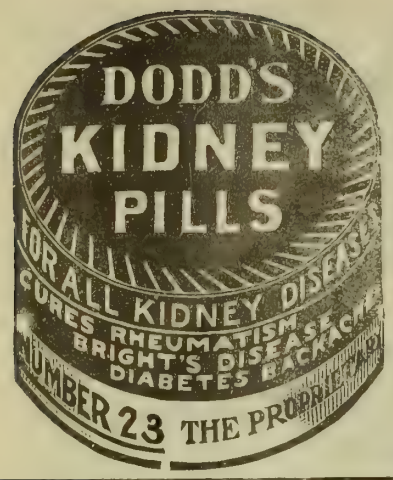
Subjects:—Cookery, Millinrey, Sewing, Home Nursing, First Aid, House Planning and Interior Decoration.

SPECIAL CLASS FOR MOTHERS.

Railway fares over $2.00 refunded. $25 offered in Prizes in all courses

Write for particulars to

HAZEL E. WINTER, Dept. of Agriculture, FREDERICTON, N. B.



of potatoes brought in under two or three different names.

The 1916 exhibitions showed gains all around. Mr. Fuller was authorixed to draft a prize list and submit it to the managers of the various agricultural societies concerned for their consideration.

In regard to the suppression of the scrub size, Mr. Fuller said any desired legislation in regard to it may be procured as soon as it is wanted badly enough. His advice was for every farmer who wanted such a piece of legislation to write his representative at Halifax to that extent and results would surely come. Such procedure was much better than the petition system.

Equitable Assessment

was the subject of the following paper read by Wm. Murray, vice-president of the Association.

Mr. President and members of the N. S. F. A.

The subject the Program Committee has allotted to me to open up, is one in which I know you are all interested. The equitable assessment of farm property is one which touches us all where we are tender. I realize that there is not a member of this Association who is not perfectly willing to pay his taxes when his property is justly assessed, but under our present assessment law we all find that quite often there are many abuses which might reasonably be avoided.

It always appeared to me as if the present law was enacted to give a bonus to shiftlessness or laziness and to punish energy and efficiency. You all have the different types of farmers in your sections. One type lets everything about his place go without any care as long as possible and his place presents a dilapidated appearance. Buildings without paint, fences tumbled down and the road side filled with stones and covered with weeds. He spends the time that would improve the appearance of his holding, either talking politics with the passers by or driving to the town or village a number of times each week, when one trip a month might do all his business.

The other type is a hustler, attends to his business, has his buildings painted up in good shape, everything about the place shows that he is on the job six days a week. His real estate may not be any better than his neighbors, but he at least makes it look better.

Well, what is the result as regards the assessment of these properties?

Well, speaking for my county at least, the man who lets everything go to wreck and is a deficit to his district, he gets a bonus for doing so by being assessed for as little as possible, while the man who keeps things in shape and has his place so that it is attractive to look at, gets punished for being an **asset**, a progressive citizen in his community, by having to pay probably near twice as much as his neighbour who owns as much real estate as he does and probably is making just as much money of his holding.

It certainly looks to me like the landlord law in Ireland, when if the tenant improved his holding he had to pay higher rent for it next year.

Then the vacant farm is held by its owner, owing to it being assesed so low that he does not mind paying the taxes on it, whereas if it was assessed as high as if occupied it would be sold to some one who would improve it and keep the weeds from going to seed and blowing over the adjoining farms. Also. it would be payng its share of school taxes and doing road work.

Now you may say that it is always easy enough to find fault with existing conditions, but how about a remedy. Well, my remedy for the present assessment law would be a single tax and that on the real estate. Encourage improvements instead of discouraging them, and vacant farms pay as much if not more taxes, than the adjoining ones.

I would also say that it would be an improvement on present conditions if real estate was assesed at or near its value, so as to be something of a guide to parties looking for farms to buy. When a farm is assessed at one half or one quarter of what an owner asks for it, a purchaser thinks there is a nigger in the wood pile if he has come from a part of the world where things are assessed at about their real value. Of course the percentage could be reduced so the taxes would not be higher than they are by the present system.

Listen to what Mayor Taylor of Vancouver says:—"The city of Van-"couver, like many individuals, has "had to curtail its expenditures in "every direction, but notwithstanding "this, when the council brought down "the estimate for the current year, "and struck the tax rate, the resolu-"tion to exempt improvements car-"ried for the sixth time without a "dissenting note. This fact should be "sufficient to counteract any reports "that Vancouver has suffered because "of the single tax method. Every mu-"nicipality except two in British Col-"umbia exempts improvements; the "British Columbia government does "the same and imposes a wild land "tax. The last legislature passed a "measure which comes into effect "within five years, to raise all reven-"ues of the province from land and "natural resources, and retains only "one other tax, that on incomes, "which are exempt up to $1,500."

I think that I will not say any thing

With good health at your back you can do anything.

If you are troubled with Headaches, Dyspepsia, Biliousness and kindred sickness you can't expect to accomplish much.

Dr. WILSON'S
HERBINE BITTERS

that "True Blood Purifyer" has been proved, during the last fifty years, to be the one best remedy for those diseases.

25c. a bottle at your store Family size, five times larger, $1.00.

The Brayley Drug Co. Limited,
ST. JOHN, N. B.

Dr. Wilson's Deadshot Wormstick in candy form for children. A sure and never failing cure. 6

Which?
Which is your choice? Dreary, unproductive stump lands, the taxes on which eat into your profits? Or rich, cultivated fields that yield bountiful crops, and put money into the bank for you? You can transform your barren stump lands into profitable cultivated fields with a
The Kirstin Method clears land ready for the plow 10% to 50% cheaper than any other
Kirstin Stump Puller
One Man — Horse Power
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Send for Free Book, "The Gold in Your Stump Land." It proves a Kirstin often pays for itself in a single day; that it provides the quickest, cheapest and best way to clear land. It contains photographs of stumps which the Kirstin has pulled, and letters from men who pulled them. Big money to early purchasers in each locality through our Profit Sharing Plan. Write now—don't wait.
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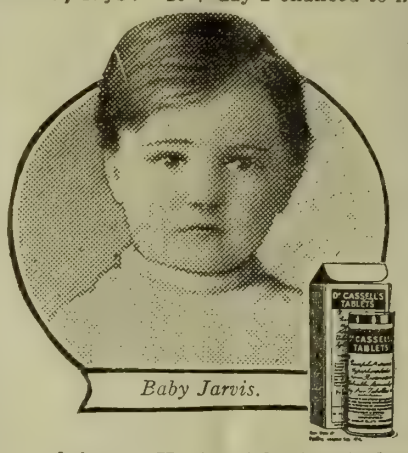
A. J. Kirstin Canadian Co.
6026 Dennis St., Sault Ste. Marie, Ont.

Now a

Fine, Bonny Little Boy

Penetang (Ontario) Child, Once so Thin and Delicate, Cured by Dr. Cassell's Tablets.

MRS. JARVIS, BOX 286, PENETANG, P.O., ONTARIO, says: "It is a pleasure to write and tell you what Dr. Cassell's Tablets have done for my baby. When only five months old he was taken ill. I had medical advice for him, and was told he had colic, for which he was treated, but he did not get any better, only worse. I tried several special foods, but none of them would stay on his stomach, and he became so thin that he seemed just skin and bone. He only weighed ten pounds. We never thought poor baby could live, but one day I chanced to hear of a baby's case almost like mine, that had been cured by Dr. Cassell's Tablets, so I got some for my baby, and I am thankful I did. After a few doses the nervous jumps he had suffered from stopped, and soon he was almost well. I have given him the Tablets during teething, and find them very soothing. He is a bonny boy now, quite cured, and weighs twenty-five pounds at twelve months old."



Baby Jarvis.

Every mother should know that Dr. Cassell's Tablets are just as suitable for children as they are for grown-up people. Their splendid nutritive and vitalising properties soon overcome any tendency to nervousness or weakness in the little ones, and lay the foundation of a strong constitution for after years.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

more on this subject, as there are many of you who can handle the subject better than I can, so I will leave it in your hands and I hope that it will be thoroughly discussed.

Wednesday Afternoon

Immediately after lunch on Wednesday afternoon the delegates were taken to the Experimental Farm, Nappan, on a train provided by Superintendent W. W. Baird. The various farmers found much to interest them in the stables and barns as Mr. Baird hurriedly related the nature of the various experiments which he is conducting in the feeding of beef steers, and the upbuilding of a grade dairy herd. The bunch of steers that is being wintered in an open shed with paddock attached, interested many and gave some of those who have a lot of feed but who are cramped for stable room an idea whereby they may utilize feed profitably in coming seasons.

The visit to the experimental farm occupied about two hours, after which all hands repaired to the usual place of meeting, where the next number on the programme was the Report of the Co-operation Committee appointed at last annual meeting.

Report on Co-operative Movement.

Your Committee on Co-operation appointed at the last annual meeting beg to report as follows.

Shortly after the last annual meeting of the Association, arrangements were made by your Committee to meet the representatives of the United Fruit Companies. The meeting took place at the Halifax Hotel and was attended by the General Manager of the United Fruit Companies and a number of his directors, also Prof. Cumming, Prof. Trueman and F. L. Fuller and your Committee. The Basis of Cooperation between the United Fruit Companies and other co-operative bodies throughout the Province was discussed at length, and the decision arrived at that for the ensuing year organization work be done throughout the Province, and that the question of amalgamating with, or becoming susidiary Companies to the United Fruit Companies be left over until the next annual meeting. The United Fruit Companies expressed their willingness in the meantime to sell to the Co-operative Companies throughout the Province, and agreed to submit their prices in confidence to some one appointed by your Committee, who if he was satisfied with them would make arrangements whereby Co-operative Companies organized, and those being organized, would secure their supplies for the ensuing year. Your Committee arranged with Mr. F. L. Fuller to investigate the prices, terms, conditions, etc.

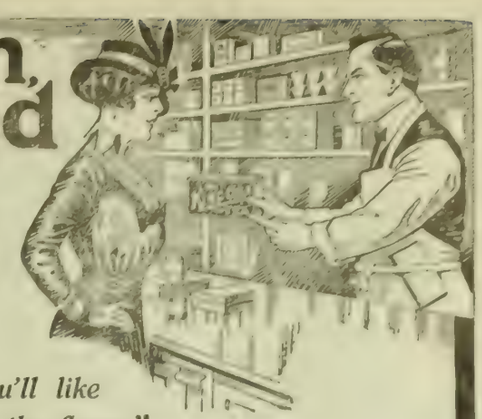
Mr. Fuller investigated the prices and completed arrangements whereby a large number of societies benefited.

Your Committee then took up the matter of organization throughout the Province with Mr. Fuller and decided to send a speaker to any part of the Province where sufficient interest was manifest to warrant the necessary expenditure.

Arrangements were made with Rev. Mr. Shaw, of Berwick, one of your Committee to do this work. On his first tour, Mr. Shaw addressed meetings at Nappan, Stellerton, Antigonish, Port Hood and Inverness.

A subsequent meeting at Stellerton was addressed by the Gen. Manager of the United Fruit Companies, Mr. A. E. McMahon, and at a later date a meeting at Stellerton was addressed by Mr. F. L. Fuller, Mr. G. E. O'Brien of the Live Stock Branch, and the Chairman of your Committee. Recently meetings were addressed at the following places by Rev. Mr. Shaw at Port Hood, Judeque, Inverness, Christmas Island, five meetings in Antigonish Co. and two in Pictou Co. and one in Halifax Co.

This, Madam, is Guaranteed



The good storekeeper always talks *Guaranteed Goods.* He knows that they stand in a class of their own; that they are DEPENDABLE, and that he can sell them without hesitation.

"You'll like the flavor"

The result of this organization work cannot yet be properly gauged, but on account of this work the interest in cooperation has become keen in many new districts, and in places where they had already been doing some work along this line, they have received an impetus and are now forging ahead. Pictou County is being thoroughly organized, and already they have done considerable business. The Pictou Co. United Farmers Limited, bids fair to become a powerful organization, as nearly every district in the County are getting into line. The Antigonish United Farmers Limited while not yet thoroughly organized have done considerable business; during the past year they purchased over $14,000.00 worth of feeds, flour and fertilizer, and during the same time they marketed farm products to the value of over $20.000.00. Port Hood and Christmas Island have done quite a large amount of business during the year, other places in the Provinces are also getting into line.

Your Committee finds that some Co-operative Societies are selling to their members and others at prices that leave no profit on the business. We believe that this practice should be discouraged, and that all Cooperative Societies should charge reasonable profit on all goods handled by them, at the end of the years business the surplus can be paid to them in the form of dividends; by following this method societies will not encounter the same amount of antagonism as if they supply their members with goods at cost.

Your Committee is indebted to Mr. F. L. Fuller for his untiring interest in their work, all arrangements for meetings were made by him, a large number of which he attended personally.

A. S. MacMILLAN.
H. S. SHAW.
WALLACE RHODENIZER.

Mr. MacMillan was of the opinion that co-operative stores should sell at a profit so as not to antagonise men who are conducting stores and other lines of business, and return the profits to the members in the form of dividends.

Mr. H. S. Shaw who carried on the work of organization during the past year, related the enthusiasm with which sections already organized are going ahead with the work. Pictou County is well organized. Rev. Father McDonald, Christmas Island, has a strong organization in his parish.

Dealers need not be unduly alarmed over co-operation. There is room for both the dealer and the Co-Operative Society.

He then introduced a resolution that legislation be asked for the purpose of organizing a central body through which purchases for the district organizations may be made.

After considerable discussion the resolution was adopted.

Dr. J. A. Sinclair addressed the meeting of The Health of the Horse. The number of questions asked showed that the subject was a popular one. It was nearly 7 o'clock before the genial doctor got away for supper.

On Wednesday Evening

The Exhibition Committee submitted their annual report as follows:

Exhibition Commissioner's Report

Mr. President and Gentlemen:

We your representatives on the Halifax Provincial Exhibition Commission, beg to submit to you the following report.

Taking every thing into consideration, war conditions and such, we believe the Exhibition of 1916, as good as any yet held. About every department made a good showing, there were sufficient entries in about every department for to tax the space, but, owing to shortage of help, very many that would have shown their stock were compelled to stay at home to harvest their crops.

The smallest showings were in the Fisheries, Swine and Horses, in the order named. It is always difficult to get a good fish exhibit, and this ought not to be so, for it is one of our important industries.

Owing to the high prices received for pork possibly accounts for that exhibit being so small. Horses were also cut in small numbers, but the quality was good.

The exhibit of sheep was small but quality was good. However we believe owing to the high price that wool and mutton now demands this industry will take on a great boom and will again rank high among the live stock of this province.

The cattle barns were well filled with the usual quality seen there. We noticed the keen interest visitors took in the judging, where it sometimes was very difficult to tell just which animal should carry off the red.

The poultry building was taxed to the limit, being constantly filled with visitors showing the increased interest taken in the hen that lays the silvery if not the golden egg.

Transportation worked against us, particularly in the manufacturers' building, where exhibitors who had booked space, found at the last moment it was impossible to get their goods there.

The exhibit of automobiles in the annex crowded this building to its capaeity, and in some cases, applicants who applied for space were not able to get it, or had to cut down their exhibit. No doubt this will be a larger exhibit in the future, and more space will have to be provided.

The Fine Arts and Mines buildings were about the same as usual, there being a few new features by way of munitions Car Axles, etc., in mines building.

The Horticultural display was about as formerly. The Agricultural building had a good showing of roots,

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

MRS. M. SUMMERS, Box 309

Read My FREE Offer:

To Mothers of Daughters: I will explain a simple home treatment which speedily and effectually dispels green-sickness, pimples, irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

Windsor, Ontario

vegetables, grain, etc. Also a fine exhibit of wool put on by the Dominion Branch of Agriculture, attracted considerable attention.

The greatest interest was shown in the Women's Institute Department, under the supervision of Miss Jennie Fraser, ably assisted by Miss McGuire, of Lunenburg. The display of home-made mats, carpets, quilts, tablecloths, towels, etc., which were nearly all made by the industrious women of Lunenburg County, was an eye-opener to many in whose home districts this line of home craft is practically a lost art.

Another very attractive exhibit was that of the Creamery and Dairy show, under the management of W. A. MacKay, superintendent of Creameries for Nova Scotia, and M. Harvey Mitchell of the Dominion Dairy Department.

There was a neat creamery, where butter-making was demonstrated at certain hours, and where the product, butter and butter-milk was sold to the public. There were the latest and most up to date appliances for Creameries and Dairy's to be found. These gentlemen have done wonders for the farmers of this province.

Mr. Mitchell, has been the means of getting the farmers to have their herds tested, enabling them to locate the poorest cows, which are turned off for beef, then replaced by better ones. Mr. MacKay has so stimulated the creamery business, that the numbers have increased from 6 creameries in 1909 producing 200,000 lbs. butter per year, until we now have 21 creameries making nearly 2,000,000 lbs. annually.

The midway came in for its usual criticism, much of which was justifiable, but, we have the assurance from Mgr. Hall, that it was not intentional, that anything of a gambling or immoral nature should get in to the grounds, and as soon as they were discovered were closed up and that in the future will be entirely cut out and nothing but good clean, amusing features allowed.

The horse-racing was the best yet, reflecting great credit to the sup't. of that Department, Mr. J. A. Fraser, who has the tact and ability to carry that sport through without a hitch, and to the entire satisfaction of all the horsemen.

We are proud to say our accounts came nearer a balance than ever before, and had we not been obliged to put a new roof on the Annex, which on account of heavy fall of snow last winter collapsed costing $1000.00 to repair it, also, an entirely new lighting system was installed costing over $700. Had not this amount been charged to this years expenses, our deficit would have been little more than $2000.00 instead of $3,982.00 which, I think you will agree is a very modest sum considering the fact we have no grant to work on.

Thanking you Mr. President and Gentlemen for the confidence placed in us, we are,

Yours truly,
F. W. FOSTER,
H. S. KENNEDY.

(Continued next issue)

BUTTER AND CHEESE FOR NEWFOUNDLAND

Mr. W. R. Nicholson, Canadian Trade Commissioner in Newfoundland, writes: "Although there are four butterine factories in operation in Newfoundland, the colony imported in the year 1915, 538,674 pounds of butter and 314,080 pounds of cheese, valued at $202,787. While Canada's share of this trade was fairly large, amounting to $167,326, indicating a decided preference for Canadian dairy products, there still remained $35,461 worth supplied by other countries which it is thought could by a little further effort on the part of Canadian dealers be supplied by the Dominion."

Owing to the proximity of the Maritime Provinces to the Ancient colony, there is no reason why our dairymen should not succeed in capturing the Newfoundland butter trade if they will put up the quality required.

Steamers ply between Halifax and St. John's, and also between North Sydney and Port Au Basque, so that the shipping facilities are good.

BLISTERING STIFLE JOINT

Is it advisable to blister colt that has had its stifle out for more than stage in which ossification has begun. Use a good smart blister well rubbed in after the soreness has been taken out by hot baths. The blister is made up as follows: ½ oz. powdered cantharides, 2 oz. lard mixed. a year?—Horseman, Pictou Co., N. S.

Ans.—If your colt's stifle joint is not still out or dislocated, it will perhaps aid to heal it if blistered. Do not blister if the stifle is out; get the patilla replaced before you blister the joint.

OVERFAT IN THE EGG-BOUND LAYER

Very few persons are familiar with egg-bound. Even some poultry breeders who have had years of experience do not know the real cause or how to treat the trouble. The condition usually appears during the winter, and more deaths from it result at that time of year than at any other. This is because the birds are shut up in winter quarters, where they cannot get proper exercise.

Egg-bound is caused by the bird's being over fat; if it is made to take the proper amount of exercise it will not be subject to this trouble. Do not overfeed! This egg-bound condition is more common in the larger breeds, such as the Asiatics, than in the Leghorn and other small breeds. Also we seldom find a pullet with this trouble. Old hens are subject to it just at the time they lay their first eggs in winter.

This over-fat condition may act in different ways to prevent the eggs being laid. I have seen the fat present in such large quantities that it would collect at the lower end of the abdominal cavity and prevent the egg from being passed. Also it will cause the walls of the muscles of the egg passages to become weakened and give way, permitting the egg or its contents to pass into the abdomen. This is brought about while the bird is trying to expel the egg. When it takes place inflammation will develop in the abdominal cavity and the bird will not live long.

You con usually distinguish the egg-bound bird in the flock. Her wings will be drooped and she will move with little energy, refusing to eat. You can also see the bird go on the nest in an effort to lay; she may make a dozen trips to the nest in one day. Her comb will become pale and her general appearance will be bad.

In treating these cases the first and most important thing is to locate the main cause, for other members of your flock are liable to get into the same condition later. In mild cases, and when you find the sick bird in the early stages, if you will inject a small quantity of sweet oil into the vent this will usually be found helpful in assisting the bird to pass the egg. Also give the bird a small dose of castor oil by the mouth. If after a few hours you do not get results, relax the muscles of the vent by holding the bird over a steaming kettle or jug filled with boiling water, for at least thirty minutes.

If this does not bring results you may as well kill the bird, for the egg has probably passed into the abdominal cavity and death is sure to follow.

J. G. B.

Wilson's
INVALIDS' PORT
(à la Quina du Pérou)

Sold on Merit for over 25 years.

Absolutely no Alcohol is added.

BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS
11

PRIZE WINNERS AT FREDERICTON SEED FAIR

Hume, etaoin shrdlu xzfiffffffl vbgkqj

Wheat, White Fife—1st, E. L. Hume, Florenceville; 2nd, B. M. Kilpatrick, Florenceville; 3rd, W. H. Venning, Sussex; 4th, H. G. Irvine, Andover; 5th, Donald Innis, Tobique River; 6th, Leslie Sharp, Mouth Keswick; 7th, A. R. Gorham, Gorham's Bluff.

Wheat, White Russian—1st, P. S. Bremner & Son, Chatham; 2nd, Ed. Jarvis, Stanley; 3rd, Henry Gordon, Chatham; 4th, W. H. Howlett, Lake Edward; 5th, J. & W. Brait, Rexton; 6th, F. Smith, Woodside.

Wheat, Red Fife—1st, M. J. Hickey, Upper Rexton; 2nd, Henry Gordon, Chatham; 3rd, W. H. Venning, Sussex.

Section 4—Wheat, any other named variety—1st, W. H. Venning, Sussex; 2nd, Francois O. Richard, McLeod's Mills; 3rd, Jean M. O. Richard, Mclead's Mills; 4th, Donald Innes, Tobique River; 5th, C. E. Barnett, Hartland.

Good for the whole family

A good cough remedy is one that can be depended upon to cure coughs. Not one that cures some particular cough, but coughs in general.

While the causes of all coughs are primarily the same, yet the condition of the patient is what makes the difference in the nature of the cough itself. Coughs of healthy persons are easier to cure than the coughs of invalids. The more powerful convulsive cough of a big man is harder to cure than the cough of a baby. If you get a remedy that will cure a big man's cough and yet not be too powerful for the baby, you have a good cough remedy.

Chamberlain's Cough Remedy

"Granny" Chamberlain

is just this kind of remedy. It is good for any member of the family. It relieves coughs of all kinds. It is composed of things which cure easily and soothingly without harming the delicate tissues of the throat, and is the ideal remedy for coughs, colds, croup, influenza and whooping cough.

Yours for Health —Granny Chamberlain.

31

Quite likely you've heard of the deservedly-popular

"York" Turnip Pulper

or Root Cutter or Feed Cutter

Well, we make it and find that IT SATIFIES. And it's merits are known not ONLY in our native New Brunswick.

If you have a good Turnip-Pulper perhaps you need a PIG-TROUGH (Cast Iron) ,or a Feed-Boiler, or a Cast Iron Grain Box, or a Griddle, or a Frying-Pan, or a Plain but Serviceable STOVE, or a Horse-Weight or two, or an Iron Pot, or WHAT NOT in CAST or WROUGHT IRON or CAST BRASS.

We are sole manufacturers of the "Dunbar" Shingle Machine, "Superior" Lath Machine, "Smith" Sapper, and "O. K." Cedar Cutoff.

—Enquiries entail no obligation—

The Smith Foundry Company, Limited,
FREDERICTON - - N. B.

Section 5—Wheat, sweepstakes—1st, E. Jarvis, Stanley; 2nd, E. L. Hume, Florenceville.

Section 6—Oats, Banner—1st, Henry Gordon, Chatham; 2nd, M. J. Hickey, Upper Rexton; 3rd, W. E. Palmer, Scotch Lake; 4th, E. Jarvis, Stanley; 5th, Hypolite Daigle, St. Charles; 6th, R. J. Shaw, Fredericton; 7th, Geo. W. Sharp, Pembroke; 8th, H. R. Duplisea, Mouth Keswick; 9th, John Inch, Burtt's Corner.

Section 8—Oats, regenerated abundance—1st, N. F. Phillips, Pembroke; 2nd, R. J. Shaw, Fredericton; 3rd, J. H. W. Brait, Rexton.

Section 9—Oats, any other white variety—1st, E. Jarvis, Stanley; Henry Gordon, Chatham; 3rd, S. G. Irvine, Andover; 4th, W. H. Venning, Sussex; 'th, Donald Innes, Tobique River; 6th, H. G. Rideout, Kingsclear.

Section 10—Oats, black—1st, E. Jarvis, Stanley; 2nd, Jean M. Richard, McLeod's Mills; 3rd, Francois O. Richard, McLeod's Mills; 4th, H. B. Parlee, Sussex.

Section 11—Oats, sweepstakes—1st, Henry Gordon, Chatham; 2nd, Wm. Palmer, Scotch Lake.

Section 13—Barley, 6 row—1st, W. H. Venning, Sussex; 2nd, P. H. Bremner & Son, Chatham; 3rd, H. B. Parlee, Sussex; 4th, H. F. Irvine, Andover; 5th, W. King, Sussex; 6th, Willer Hayne, Lake Edward; 7th, R. J. Shaw, Fredericton.

Section 14—Buckwheat, smooth—1st, H. B. Parlee, Sussex; 2nd, A. R. Gorham, Gorham's Bluff.

Section 15—Buckwheat, rough—1st, H. B. Parlee, Sussex; 2nd, Arthur Moore, Scotch Lake; 3rd, E. Jarvis, Stanley; 4th, Leslie Sharp, Mouth Keswick; 5th, W. H. Venning, Sussex; 6th, R. J. Shaw, Fredericton.

Section 16—Potatoes, Green Mountain group—1st, Henry Gordon, Chatham; 2nd, W. E. Palmer, Scotch Lake; 3rd, E. Jardin, Stanley; 4th, P. H. Bremner & Son, Chatham; 5th, Inch Bros., Burtt's Corner; 6th, Leslie Sharp, Mouth Keswick; 7th, Arthur Moore, Scotch Lake; 8th, John Inch, Burtt's Corner.

Section 17—Potatoes, Irish Cobblers—1st, W. E. Palmer, Scotch Lake; 2nd, F. E. Henderson, Andover; 3rd, H. B. Parlee, Sussex; 4th, Henry White, Chatham; 5th, B. Goodspeed, Penniac; 6th, Henry Gordon, Chatham; 7th, L. F. Hoyt, Prince William; 8th, David Currie, Tobique River.

Section 18—Potatoes, any long white variety—1st, Henry Gordon, Chatham; 2nd, W. E. Palmer, Scotch Lake; 3rd, E. Jarvis, Stanley; 4th, John Inch, Burtt's Corner; 5th, Inch Bros., Burtt's Corner.

Section 19—Potatoes, any Rose variety—1st, Henry Gordon, Chatham; 2nd, W. E. Palmer, Scotch Lake; 3rd, E. Jarvis, Stanley; 4th, H. G. Rideout, Kingsclear; 5th, David Currie, Tobique River.

Section 20—Potatoes, any red variety—1st, H. B. Parlee, Sussex; 2nd, Henry Gordon, Chatham; 3rd, Leslie Sharp, Mouth Keswick; 4th, B. Goodspeed, Penniac; 5th, H. R. Duplisea, Mouth Weswick.

Section 21—Potatoes, any dark skinned variety—1st, H. B. Parlee, Sussex; 2nd, W. E. Palmer, Scotch Lake; 3rd, Henry Gordon, Chatham; 4th, H. R. Duplisea, Mouth Keswick; 5th, Goodspeed, Penniac.

Section 22—Turnip, or Swede seeds—1st, Austin Baker, Loch Lomond; 2nd, E. Jarvis, Stanley; 3rd, E. J. Hume, Florenceville; 4th, R. J. Shaw, Fredericton; 5th, L. F. Hoyt, Prince William; 6th, Arthur Moore, Scotch Lake.

Section 23—Mangold seed—1st, Henry White, Chatham; 2nd, Henry Gordon, Chatham; 3rd, P. S. Bremner & Son, Chatham; 4th, W. Palmer, Scotch Lake.

Section 24—Carrot seed—1st, L. T. Hoyt, Prince William; 2nd, W. E. Palmer, Scotch Lake; 3rd, P. S. Bremner & Son, Chatham.

Section 25—Turnips or Swedes for seed raising—1st, W. E. Palmer, Scotch Lake; 2nd, Henry Gordon, Chatham; 4th, John Inch, Burtt's Corner; 5th, C. E. Barnett, Hartland; 6th, E. Jarvis, Stanley.

Section 26—Mangolds for seed raising—1st, Henry White, Chatham; 2nd, Henry Gordon, Chatham; 3rd, L. J. Hoyt, Prince William; 4th, J. W. Smith, Durham Bridge; 5th, B. Goodspeed, Penniac; 6th, A. C. A. Harrison, Marysville.

Section 27—Potatoes, onions: 1st, L. J. Hoyt, Prince William; 2nd, Henry Gordon, Chatham; 3rd, Mary E. Moore, Scotch Lake; 4th, Arthur Moore, Scotch Lake.

Section 28—Six table onions for seed raising: 1st, Henry Gordon, Chatham; 2nd, A. and A. C. Harrison, Maugerville; 3rd, Jas. W. Smith, Durham Bridge; 4th, E. L. Hume, Florenceville.

Section 29—Garden peas: 1st, Henry White, Chatham; 2nd, A. R. Gorham, Gorham Bluff; 3rd, Henry Gordon, Chatham; 4th, E. Jarvis, Stanley.

Section 30—Cabbage seed: 1st, P. S. Bremner & Son, Chatham.

Section 31—Beet seed; 1st, P. H. Bremner & Son, Chatham.

Section 32—Parsnip seed: 1st, Henry Gordon, Chatham; 2nd, P. S. Bremner & Son, Chatham.

Section 33—Sweet corn: 1st, W. M. Starkey, Cody's; 2nd, B. Goodspeed Penniac; 3rd, A. and A. C. Harrison, Maugerville; 4th, A. R. Gorham, Gorham Bluff.

Section 34—Sweepstakes, best collection field root and garden seeds: 1st, P. S. Bremner & Son, Chatham; 2nd, W. H. Moore, Scotch Lake; 3rd, B. N. Underhill, Blackville.

Section 35—Timothy seed: 1st, R. J. Shaw, Fredericton; 2nd, P. H.

The "Live a Little Longer" Idea

IN Rochester, N.Y., there has been formed an association the object of which is to promote the "Live a Little Longer" idea. It aims to encourage men and women to give attention to their health, and by preventive methods to avoid serious disease and add years of happiness to their lives.

This idea is suited to people of all ages, but seems particularly applicable to persons of advancing years who feel their vitality on the wane. It is truly wonderful what is accomplished by Dr. Chase's Nerve Food under these circumstances.

By forming new, rich blood, and nourishing the starved, wasted nerve cells, it instils new life and vigor into the vital organs and enables them to perform their natural functions.

This means new strength and comfort, freedom from pain and disease, and longer life. This letter gives you some idea what old people may expect from the use of Dr. Chase's Nerve Food.

Mrs. Sophia Baker, Tancook Island, Lunenburg Co., N.S., writes :—"I have been reading about people who have been cured by Dr. Chase's medines, and as I have obtained great benefit from the use of Dr. Chase's Nerve Food I want to tell you my experience. I am an old woman of 80 years. My sleep was very poor, I could not eat anything, and my nerves were in a bad state. Hearing about the Nerve Food, I decided to use it, and must say that the five boxes I took helped me wonderfully. I never expect to be like I was at 50, but this treatment has helped me to sleep well, improved the appetite and built up the nerves. Anyone who wishes can write to me for full particulars.

50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

531

DR. A. W. CHASE'S NERVE FOOD

Bremner & Son, Chatham; 3rd, W. H. Venning, Sussex.

Section 36—Red clover seed: 1st, W. H. Venning, Sussex.

Section 37—Alsike clover seeds: 1st, W. H. Venning, Sussex.

Section 39—Field peas: 1st, Henry Gordon, Chatham; 2nd, Clover Nook Farm, Hartland; 3rd, W. H. Venning, Sussex.

Section 40—Beans, white; 1st, E. Jarvis, Stanley; 2nd, P. S. Bremner & Son, Chatham; 3rd, R. J. Shaw, Fredericton; 4th, H. B. Parlee, Sussex; 5th, A. R. Gorham, Gorham's Bluff; 6th, A. and A. C. Harrison, Maugerville.

Section 41—Beans, colored: 1st, E. Jarvis, Stanley; 2nd, Leslie Sharp, Mouth Keswick; 3rd, P. S. Bremner & Son, Chatham; 4th, Arthur Moore, Scotch Lake; 5th, L. S. Hoyt, Prince William; 6th, H. F. Rideout, Kingsclear.

Section 42—Beans, yellow eye: 1st, 2nd, Henry Gordon, Chatham; 3rd, L. J. K. Rossborough, Mouth Keswick; T. Hoyt, Prince William; 4th, H. C. Bremner & Son, Chatham; 5th, E. L. Hume, Florenceville; 6th, F. E. Henderson, Andover.

Section 43—Corn, any flint variety: 1st, E. L. Hume, Florenceville; 2nd, J. B. Rossborough, Mouth Keswick; 3rd, L. T. Hoyt, Prince William; 4th, M. W. Starkey, Cody's; 5th, S. B. Parlee, Sussex; 6th, Clover Nook Farm, Hartland.

Section 44—Vetch spring: 1st, Clover Nook Farm, Hartland.

Section 45—Vetch hairy: 1st, Clover Noow Farm, Hartland.

Special standing crops competition:

Section 46—Wheat: 1st, P. S. Bremner & Son, Chatham; 2nd, E. Jarvis, Stanley; 3rd, Henry Gordon, Chatham; 4th, E. L. Hume, Florenceville; 5th, B. M. Kilpatrick, Florenceville; 6th, Donald Innes, Tobique; 7th, Leslie Sharp, Mouth Keswick.

Section 47—Oats: 1st, Henry Gordon, Chatham; 2nd, N. F. Philips, Pembroke; rd, W. E. Palmer, Scotch Lake; 4th, E. Jarvis, Stanley; 5th, Donald Innes, Tobique River; 6th, B. M. Kilpatrick, Florenceville; 7th, H. R. Duplisea, Mouth Keswick.

Section 48—Barley: 1st, H. B. Parlee, Sussex; 2nd, W. J. King, Sussex.

Section 49—Buckwheat: 1st, E. Jarvis, Stanley; 2nd, H. B. Parlee, Sussex; 3rd, Leslie Sharp, Mouth Keswick; 4th, W. H. Moore, Scotch Lake; 5th, H. R. Duplisea, Mouth Keswick; 6th, F. E. Henderson, Andover.

Section 50—Potatoes: 1st, Henry Gordon, Chatham; 2nd, W. E. Palmer, Scotch Lake; 3rd, P. H. Bremner & Son, Chatham; 4th, A. H. Margison, East Centreville; 5th, John Inch, Burtt's Corner; 6th, C. E. Jarvis, Stanley; 7th, Inch Bros., Burtt's Corner.

Section 51—Turnips: 1st, E. L. Hume, Florenceville; 2nd, Inch Bros., Burtt's Corner; 3rd, Henry Gordon, Chatham; 4th, W. E. Palmer, Scotch Lake; 5th, W. H. Moore, Scotch Lake; 6th Leslie Sharp, Mouth Keswick; 7th, A. H. Margison, East Centreville.

Special registered seed:

Section 52—Whaet: 1st, E. L. Hume, Florenceville; 2nd, Donald Innes, Tobique River; 3rd, C. E. Barnett, Hartland.

Section 53—Oats: 1st, W. E. Palmer, Scotch Lake; 2nd, Donald Innes, Tobique River; 3rd, E. L. Hume, Florenceville; 4th, C. E. Barnett, Hartland.

Section 55—Potatoes: 1st, W. E. Palmer, Scotch Lake; 2nd, H. B. Parlee, Sussex; 3rd, E. L. Hume, Florenceville.

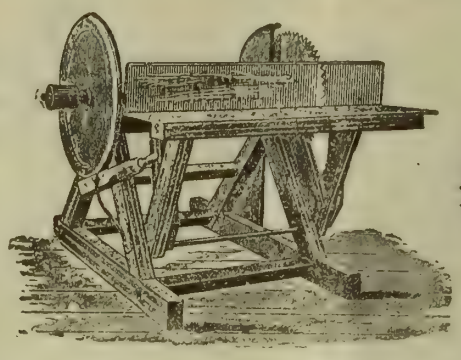
Boys and girls between 13 and 18:

Section 1—Wheat: st, Harold Jarvis, Stanley.

Section 2—Oats: 1st, Mary E. Moore, Scotch Lake; 2nd, Enid Palmer, Scotch Lake; 3rd, Harold Jarvis, Stanley; 4th, Marjorie P. Gorham, Gorham Bluff.

Sussex Wood Cutters Cut Expenses

Consult Our Quality Line Before Buying



Short Swing Wood Cutter

Wood Cutter Saws guaranteed at the right price. All sizes. Prompt delivery.

Flat Roller Table.

CONVENIENCE **ECONOMY** **DURABILITY**

are the three money-making qualities embodied in our Wood Cutting Machines. No frail parts to give out in a season's use. Built to last a life time. Frame is made of well seasoned birch, bolted and mortised; table of heavy steel plating in one piece.

Swing Table Machines built on skids, bearings supplied with compression greese cups. Especially adapted for use with gasoline engines. Made in four styles—Long Swing, Long Swing Improved, Short Swing, Flat Table.

Ask for our Catalogue and Prices, it will pay you.

Remember we also manufacture Trenholm Gear Hay Presses, Grain Grinders, Root Pulpers, Feed Boilers, etc.

The Sussex Manufacturing Company, Limited, Sussex. N. B.

MEETING OF THE NOVA SCOTIA POULTRY ASSOCIATION

(Continued from page 238)

show's prize list.

Mr. Bath, Mr. Bowes and others suggested that it would be a good idea to consider ways and means of providing funds to start a laying contest in the near future. It was decided that owing to war conditions, not to press a claim for this work, but to gather material re these contests for next meeting and then to give the matter more consideration.

It was moved and passed that the secretary write the clubs two months before the meeting is held in order that a discussion may be held and a delegate be elected to attend the annual meeting.

Professor M. Cumming, Secretary for Agriculture, addressed the meeting briefly and stated he was in accord with the objects of the Association. He made several inquiries re the conducting of the laying contest work and suggested that plans be submitted to the Department when completed for this work.

The election of officers resulted as follows:—

President—Mr. Fred Bath, Bridgetown; Vice-President—Mr. E. E. Freehill, New Glasgow.

Executive Committee:—W. F. Mattinson, Glace Bay; Frank E. Jackson, North Sydney; C. F. Bowes, Halifax; W. W. Osbourne, New Glasgow; H. M. Pettet, Yarmouth; Thos. McDonald, Antigonish.

Secretary-Treasurer—J. P. Landry, Truro, N. S.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

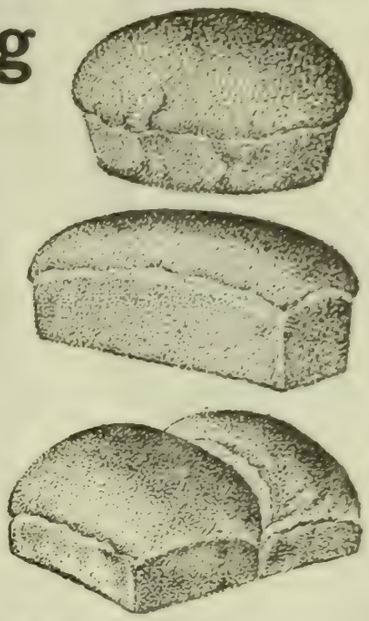
Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

This woman's experience will help you with your breadmaking



She writes: "My grocer told me to get Cream of the West flour for bread—he could recommend it. It makes bread white and light, so now I won't have any other." A flour so satisfactory that it deserves such praise from those who actually use it is well worth trying. Women everywhere who use it, recommend

Cream of the West Flour

the hard wheat flour that is guaranteed for bread

Give it a trial. See for yourself how splendidly it makes bread that rises right up out of the pans. Cream of the West flour is rich in gluten. This highly nutritious substance has such wonderful elasticity or power of expansion that it imprisons the gas developed by the yeast, thus enabling your bread to rise properly.

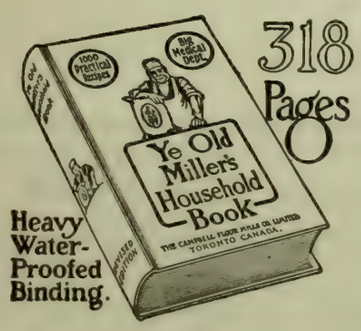
If you want fine big, bulging loaves, with delicious flavor, even crumb and all the wholesome nutritious quality of Western hard wheat, you decidedly ought to try Cream of the West flour for your next batch. If your bread proves unsatisfactory, return the unused flour to your dealer; also bring this advertisement which is our guarantee. He will return your money and we will repay him.

Our Domestic Science Experts solve your problems

Do you know what makes bread go sour sometimes? Are you puzzled about your pie crusts turning soggy for the first time, in spite of your close attention to the recipe? Would you like advice about the right kinds of pastry for different kinds of fillings? It is such unexpected, mystifying difficulties as these that we want to help you solve.

No matter what your problem may be, with either your bread or your pastry baking, our Domestic Science experts are cordially willing to help you solve it—whether you use our flour or not. Just write us a letter in your own way and explain clearly what you want to know. Give name of your dealer, and also state what flour you are using. Address—Domestic Science Department, Campbell Flour Mills Co., Limited, Toronto, Canada.

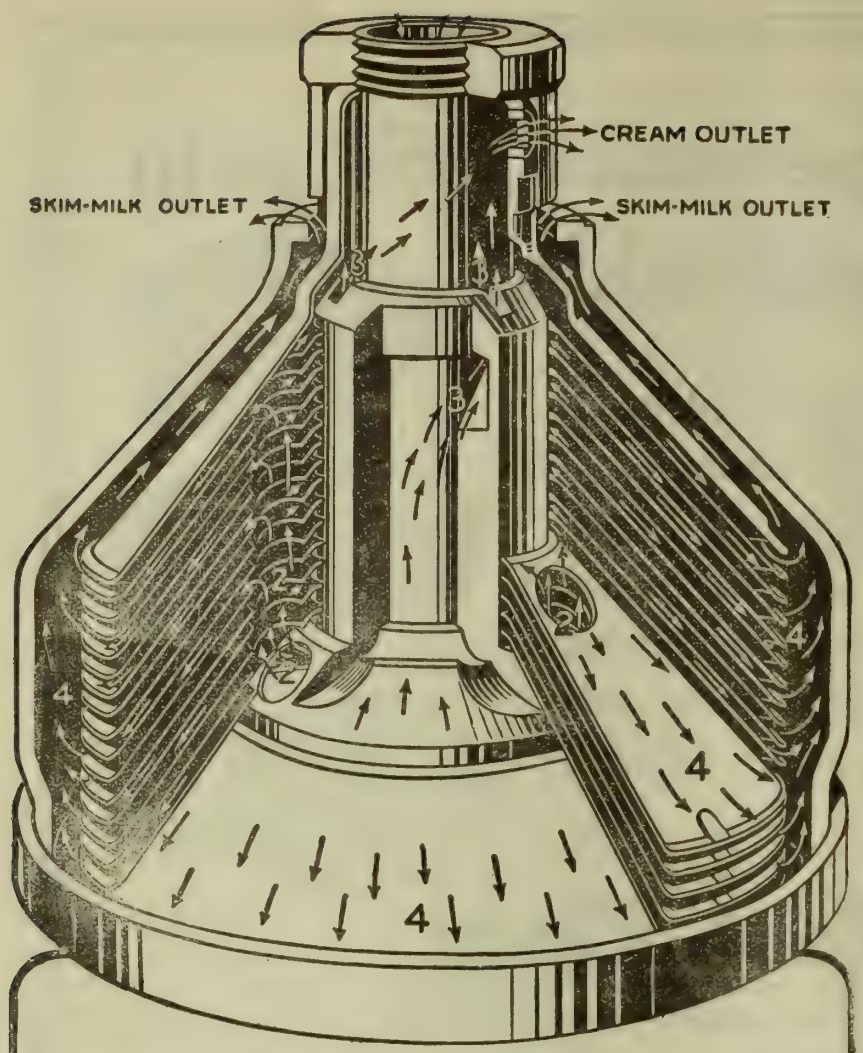
You can get these famous books Free



Ye Old Miller's Household Book may be had for a certain number of cards. This splendid book contains 1000 recipes; large medical section—telling how to deal with accidents, sickness, etc. Every home should have this book.

Users of Cream of the West flour have the splendid privilege of selecting books free, from the Campbell Library. In every barrel, half-barrel or sack you will find a colored library card. Collect and send these cards to us in exchange for books, which become your own property. Here are some of the titles of the books you may select:—"David Copperfield," by Dickens; "Last Days of Pompeii," by Lord Lytton; "The Three Musketeers," by Dumas; "Vanity Fair," by Thackeray; "Waverley," by Sir Walter Scoott, and standard favorites by Fenimore Cooper, Hawthrne, Reade, Charlotte Bronte and others. Also books for boys and girls. Full list on cards.

The Campbell Flour Mills Company, Limited, Toronto, Canada



Here is the heart of

THE NEW DE LAVAL CREAM SEPARATOR

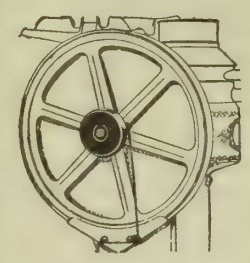
THIS is the new self-centering De Laval bowl with detached spindle, that is creating such a sensation in the dairy world.

This new De Laval bowl, with patented tangential tubular milk passages and patented removable milk conveyor, makes possible in a bowl of given size and weight, operated at a given speed, greater skimming efficiency and capacity than has ever before been attained in any other cream separator bowl.

These are big advantages that you can secure only in the De Laval.

But aside from the big advantages of greater capacity and closer skimming, there are many other important improvements in the New De Laval.

All discs are now interchangeable and are unnumbered. There are fewer discs. On account of greater simplicity of bowl construction, the New De Laval is easier to wash and, capacity considered, is still easier to run than before. High grade construction and design, together with perfect automatic lubrication, are a guarantee that the splendid De Laval record for durability will be maintained in the new style machine.



Every New De Laval is now equipped with a Bell Speed-Indicator, the "Warning Signal" which insures proper speed and uniform cream.

If you are trying to get along without a cream separator or with a half-worn-out or unreliable machine, why not get a NEW De Laval NOW and stop your cream waste? You don't need to count the cost, because the De Laval will soon pay for itself.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you try it for yourself.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

New Catalog will be mailed upon request

THE DE LAVAL COMPANY, Ltd.

Montreal Peterboro Winnipeg Vancouver

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

DAIRY SCHOOL

For Maritime Provinces

Conducted under the joint support of the Departments of Agriculture of New Brunswick, Prince Edward Island and Nova Scotia, at the

Nova Scotia Agricultural College

TRURO, NOVA SCOTIA

From March 7th to April 3rd, 1917

BUTTERMAKERS' COURSE
March 7th to March 20th
Mr. Mack Robertson, Chief Instructor.

New Machinery Installed, Pasteurizing Vats, DeLaval and Success Churns, Butter Cutting and Printing Machines, Starter Cans, all the latest in creamery butter manufacture, Incorporation of Moisture, Cream Grading, etc.

CHEESE MAKERS' COURSE
March 21st to April 3rd
Mr. Geo. H. Barr, Chief Instructor

The latest and best ideas in cheese making, Agitating Vats, New Presses and other New Machinery. The use of Pepsin as a coagulator, etc.

TESTING OF MILK AND ITS PRODUCTS
C. W. McDougall, Chief Instructor

The Babcock Test in all its branches, The Acidimeter, the Moisture Test, the Sediment Test and the Lactometer.

CREAM SEPARATORS
Ben Gallant, of P. E. I., Chief Instructor

11 makes of machines to work with. General operation, Causes of Variation in Cream Tests, etc.

Free to all in Maritime Canada who have had at least one season's experience in a cheese factory or creamery, or make special arrangements with the Superintendent in charge.

Special Arrangements
Railway Fare on Standard Certificate Plan. Special Arrangements made by each Department of Agriculture.
For particulars write your Provincial Dairy Superintendent.

OTHER SUBJECTS

This Course is being held at the College of Agriculture due to the fact that in addition to equipment for above subjects, the College has probably the best herd of Dairy Cows in the Maritime Provinces, good Poultry yards, a Chemical Laboratory properly equipped, Bacteriological Laboratory, Library and Reading Rooms, and a large staff of Professors and Instructors who will be at the service of the students of this course. Lectures and demonstrations in the above subjects will be given as circumstances permit and consultation as arranged.

The most competent instructors that can be secured in Canada.

Two courses of two full weeks each filled with what is practical and needful to our creamery and cheese factory men.

Can you afford to miss it?

For further particulars write

M. CUMMING, B. A., B. S. A., Principal College of Agriculture, Truro, N. S.

W. A. MacKAY, Superintendent in Charge, Truro, N. S.

STRAWBERRY PLANTS !

Growers of Strawberries in the Maritime Provinces receive fifty per cent. more for their fruit than farmers in Ontario. Our soil is just as suitable, our climate just as favorable for big crops as theirs. No one should talk hard times who is not living up to his opportunities.

In berry growing good soil, good care and cultivation and good plants are all the essentials of success; but as the stream cannot rise higher than its source, so without first-class well grown plants good returns for labor cannot be expected. We can prove by many satisfied customers that the grower who buys plants from us is starting on the right road for a big berry crop.

We offer the Senator Dunlap, the most widely grown and popular berry in America at $3.50 a thousand. In orders of five thousand or over, $3.25 a thousand. We have also Arnout, Williams, Valeria, etc., the old standbys and the best new kinds.

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Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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N. B. Farmers' and Dairymen's Annual Convention

The forty-first annual convention of the Farmers and Dairymen of New Brunswick was held in the city of Fredericton on January 29th to February 2nd. The opening session was at eight o'clock Monday evening, when Mr. Geo. E. Fisher, the president of the Association, occupied the chair and delivered the following address:—

The President's Address

In reviewing the work of the past year, or since last we met in annual session, the question arises, "What have we, as an association, accomplished or done for the general advancement of agriculture in this, our own province? What does the constitution demand of us?" And, as we are tonight celebrating the 41st annual session of the Farmers' and Dairymen's Association of New Brunswick, well might we ask the question: "Are we making progress or only marking time; are we in New Brunswick keeping pace with our sister provinces in agricultural development, and are we keeping abreast of the times like other professions." But let us leave the question unanswered for a little. What did we do?

The only evidence that we have existed at all in the past, as an association, is the fact that we have met in annual session year after year; and there it ends, and periodically pops up serenely a year hence. But perhaps 1916 was an exception.

We held a mid-summer meeting and enjoyed a most delightful and profitable day at the Experimental Farm—a day that will long be remembered by many. If you can, imagine 1,200 to 1,500 interested people, scattered over the well laid out fields and plots of this beautifully situated farm—part of which only a few short years ago, was a virgin forest—all these people eager to gather information and see how things are conducted in general on a large and well equipped Experimental Farm.

Superintendent Hubbard surely is to be congratulated upon the progress he has made; and the pleasure and enjoyment of the day spent there was largely due to his efforts. New Brunswick is fortunate in having such a splendidly equipped agricultural centre from which we hope there will, in the near future, radiate such a gleam of agricultural activity as will make up for the valuable time lost in the past.

This, then, comprises the field of our activities as an association for the year 1916. To my mind 1916 will go down in history as a banner year for New Brunswick farmers. Crops were good, generally speaking, and markets for every kind of produce were the highest yet recorded, with the demand greater than the supply. Why? "Ah, there's the rub," as Shakespeare says.

We didn't have sufficient wheat to make the $11 barrel flour that we are buying today, nor enough pork to make the 25 cents a pound bacon our Prince Edward Island and Ontario neighbors are selling today, nor did we keep enough cows to produce the butter and cheese that are commanding the highest prices ever heard in our history. Think of it!—40 cents for butter and 25 cents for cheese. What do you say it is—a "lost opportunity."

The Farmers' Opportunity.

Opportunity Ah, this is the farmers' opportunity, and we should spell it in large capital letters and, linking it up with co-operation, we, as farmers of New Brunswick, would be taking a step in the direction of advancement.

Advancement that will lead us still further on to the realization of what progressive agriculture means, not only to ourselves and for ourselves, but as a noble heritage to hand down to those who come after us, as well as for the general good of the country in which we live and should be justly proud of Yes, "Home Sweet Home"—be it ever so humble there is no place like home in New Brunswick. And no doubt the lads who have gone out from our good old province and are doing their "bit" for the dear old flag and home would fight with a greater determination than ever if they felt that those who had to remain behind were also doing their "bit" by living up to their opportunities and the greater demands required of them at this critical period in the history of Great Britain by now making a supreme effort along the lines of increased production.

Our slogan should then be "increased production." And should we not, as an association and true, loyal British subjects, pledge ourselves at this annual meeting, to everything that is in sympathy with the present day demands upon us?

Winston Churchill said that he was quite sure that national organization of agriculture was inevitable, and we need a great organization for producing munitions of life—just as we do for munitions of death.

In leaving these few thoughts with you I would, in conclusion, like to pay a slight tribute of respect to the memory of the late Dr. C. C. James, who a year ago stood on this platform and in eloquent and appropriate terms, emphasized the great question of increased production. Tomorrow, when we enter into the discussion of the subjects on the programme, we might well take the advice of that eloquent champion of agriculture (quoting from an address delivered in Toronto shortly before his death), when he summed up his remarks in these words:

1—Drain the soil.

2—Sow only the best seed.

3—Carefully protect and store the products of the fields and orchards.

4—Feed field products only to profitable stock.

5—Put the finished product on the market in the best form.

Gentlemen, I trust our deliberations during the week will be both provtable and pleasant.

The Address of Welcome.

In extending the welcome of the city of Fredericton, Mayor Mitchell referred to the efforts for increased production to the efforts for increased production which the farmers had already made since the outbreak of the war and the necessity for continuing, and if possible, of increasing those efforts. He took occasion to congratulate the Provincial Government on the forward step that they had taken in aid of agriculture, in the recent engagement of Prof. J. W. Mitchell as superintendent of livestock and dairying.

The reply to the Mayor's address of welcome was briefly and acceptably made by H. H. Smith of Hoyt Station, in place of Mr. A. J. Gaudet of Dorchester who was unavoidably absent.

Following the addresses of welcome and reply thereto, Hon. James A. Muray, Minister for Agriculture addressed the convention.

At the outset he touched upon the war and referred to his recent visit to London where he had seen. as it were, the very heart throbs of the nation, and become impressed with the unbreakable spirit of grim determination that dominated the Empire and permeated throughout the overseas Dominions and their provinces of which New Brunswick had a proud record of valor and self-sacrifice—a spirit that meant to see the war which was really a struggle for freedom, righteousness and for life itself through to a victorious termination.

Previous speakers had referred to the great prosperity of New Brunswick and he believed that this was an evidence that the province was just coming into its own. As a result of the publicity which the Government had given to the province lately, its resources and advantages were becoming more widely known and the offices at St. John and Fredericton had received scores of enquiries from Western Canada and the New England States. He thought that we should show our faith in the province by still greater publicity of its many attractions.

Continuing, Mr. Murray said that while emigration from Europe might not come immediately after peace he was firmly convinced that a great tide of immigration was coming sometime soon as a result of the war. New Brunswick would bet its share of the immigrants and in 10, 15 or 20 years time there would result a greater increase of our population than we had ever dreamed of 20 years ago. He based this assertion on the enquiries received from soldiers at the London office and by the C. P. R. officials.

He was glad to say that they had made considerable progress in agriculture in the province. The Department of Agriculture favored the purpose of aiding farmers and farming and was at the disposal of the Farmers' and Dairymen's Association. He invited their assistance, cooperation and constructive criticism in working out the best policy for the province. He referred to the recent engagement of Prof. J. W. Mitchell as superintendent of the live stock and dairying division as a step which he felt sure would result in the building up of those important branches of agriculture. He was satisfied that dairying and mixed farming were the basis of successful farming in New Brunswick.

Mr. Murray referred very briefly to the many other forward steps which his department had initiated, including the demonstrations given by the clover huller, lime rock crusher and ditching machine, the campaign for the use of home mixed fertilizers, the work of the Women's Institutes, the building of the agricultural schools and the vocational and elementary agricultural education work.

In conclusion he hoped that their sessions and deliberations would prove very successful and prosperous.

County Reports

The reports of the vice-presidents for the several counties for the past year were then called for. They dealt in a specific manner with the results of the crops during the past season, the condition of live stock, etc.

Reports from the following counties were submitted as follows: Queens, Isaac Baird; Albert, Mr. Paisley; Carleton, L. V. McIntosh; Charlotte, Stanley Wilson; Kings, Leslie Wood; Madawaska, J. E. Bernier; St. John, A. Johnston; Sunbury, H. L. Dibblee; Westmorland Frank Fawcett, and York, W. H. Moore.

In the reports from Albert and York counties it was stated that the dog nuisance was a considerable detriment to the sheep raising industry. All the reports emphasized the difficulties that the farmer has to face owing to the scarcity of labor due to the war.

In the report for Carleton County, Dr. McIntosh said that the potato crop was about sixty per cent but that thousands of barrels of potatoes are yet being held in storage on the farms. One flock of sheep imported into that county last year cost $500 but the industry is growing. Condi-

tions throughout the province in general were shown by reports to have been good with the hay crop particularly fine and good prices prevailing.

In his report for the County of St. John, Mr. Johnston made reference to the loss sustained by the association in the death of R. G. Murray, while he also showed that market dairying is a profitable industry and with respect to milk said that the profit has reached the vanishing point.

Frank Fawcett in his report, made the interesting statement that 100 tons of strawberries had been sent out during the year from Sackville, and that one farmer cultivated twenty-five acres of berries.

Committees

Finance—Scott Shaw, I. W. Baird and Jas. Bremner.

Resolutions—M. A. MacLeod, W. E. Palmer, W. W. Hubbard, Sidney Dis-Brisey and Frank C. Fawcett.

Tuesday Morning

The Tuesday morning session was devoted to a discussion of the Sheep Industry and the reasons why it is not advancing more rapidly in the province. Geo. E. O'Brien of the Live Stock Branch, Ottawa, was the first speaker. He did not dwell at any length on the advantages of the industry as they are already well known. There are, however, several bars to more rapid progress in this important industry. Chief of these he said, are the fence problem and the dog nuisance. The former drawback is within the grasp of the sheep owner, but the latter nuisance is beyond his control until better laws are enacted for his protection. His address throughout was a forceful exposition of the situation and along similar lines to the arguments advanced by him in our report of The Nova Scotia Farmers Association.

M. A. MacLeod and C. N. Shaw led the discussion on the dog nuisance, the outcome of which was the appointing of a committee to draft a resolution to be submitted to the New Brunswick Legislature asking for protection to the sheep industry from the dog nuisance. M. A. MacLeod, C. N. Shaw and Prof. Mitchell were appointed to draft the resolution in question and submit it at a later session.

Mr. Jas. Thompson of the Live Stock Division, Ottawa, gave a short talk on wool grading and the care of wool.

Pork Production

Breeding and Feeding for Pork Production was the subject of an excellent address on Tuesday afternoon by W. W. Baird, Supt. of The Experimental Farm, Nappan, N. S. The discussion that followed showed the interest the New Brunswick farmers take in the pork producing industry. Mr. Baird was kept busy answering questions. A most profitable and instructive talk was the unanimous verdict of the delegates.

We will publish extracts from Mr. Baird's address in a future issue.

The Tuesday evening session was replete with good things for the Potato growers. Prof. Cunningham, Provincial Plant Pathologist, read an excellent paper on "Potato Diseases and their Control and Selection of Prolific Strains." "Late Blight and its Control by Spraying", was dealt with by Geo. Partridge, Prof. Cunningham's assistant. We will publish both of these papers in future issues and take this opportunity of asking our readers to study the thoughts therein expressed and follow by practice the recommendations of these gentlemen. They know whereof they speak and it will mean dollars and cents to the Farmers who will follow their recommendations.

A practical talk on the preparation, cultivation and fertilization of the Potato Field by Mr. W. W. Hubbard, concluded the evenings program.

Fertilizers

Wednesday morning's session was devoted to a talk on Fertilizers by Mr. H. B. Durost, Instructor in fertilizers for the province. Mr. Durost discussed the constituents of soils, the food requirements of plants and the ingredients commonly used to supplement the plant food already in the soil. We believe Mr. Durost's address was the best information on the plant food question ever delivered to a New Brunswick audience. In concluding his address Mr. Durost referred to the good work that is being done by The New Brunswick Agricultural Societies United in the purchase of fertilizers and distribution to the members of Agricultural Societies at the lowest possible cost. It was after the noon hour before Mr. Durost concluded his address, yet every one was anxious to remain and glean as much information as possible.

Wednesday Afternoon

On Wednesday afternoon Mr. O. C. Hicks of the Provincial Dept. of Agriculture read an excellent paper on Clover and Timothy Seed Production, which was both interesting and timely, and particularly so at the present time when farmers, owing to the high prices prevailing for good seed, are thinking seriously of producing their own supply. That this can be done, was clearly shown by the excellent quality of the exhibits at the seed fair held concurrently with the convention. Mr. Hicks' paper will be published in the Maritime Farmer in good time for the following next season of the ideas set forth by Mr. Hicks.

S. J. Moore of the Seed Division, Ottawa, followed Mr. Hicks with a talk on Lessons to be Learned from Seed Fairs and Field Crops Competitions. Mr. Moore is no stranger to New Brunswick audiences. He has been doing good work as seed inspector for the Maritime Provinces for over a decade. Mr. Moore had a long and successful career as a farmer and when he talks to farmer audiences, they know that he is speaking from practical experience and have every confidence in his recommendations. Some time ago he approached the New Brunswick Department of Agriculture with the suggestion that it would be a boon to the farmers of the province if the Department would purchase a clover huller for the use of farmers who wish to grow clover seed. The suggestion was acted upon and the result is that hundreds of bushels of clover seed have been threshed and bulled by New Brunswick farmers during the past season. Having a machine for the proper handling of the seed has been a big incentive for the farmers to produce. Mr. Moore thinks that in a few years New Brunswick will be able to produce its own clover seed supply.

Field Crops Competitions

"With regard to lessons to be learned from seed fairs and standing field crop competitions, Mr. Moore said:

"When I became associated with the Dominion Seed Branch eleven years ago, there was not very much being done in this line, but a lot has been done during the last few years and numerous seed fairs are annually held in the Maritime Provinces, also last season, 300 farmers took part in the field crop competitions. I should like to see three times 300 taking part, for then we should be in a position to supply all our wants with regard to seed without having to depend on other sources. Without saying anything disparaging of the other counties of this province, you have in Carleton County one of the finest farming sections to be found anywhere, the possibilities there are great and advantage should be taken of them.

The big lesson learned from Seed Fairs and Crops Competitions is that we can grow just as good seed and crops in New Brunswick as in any part of Canada.

Mr. G. LeLacheur, of the Dominion Seed Branch, Ottawa, who was one of the judges of grain at the seed fair, gave as his opinion that the exhibit of grains was one of the best he had seen in the Maritime Provinces. He also explained the working of the Dominion Seed Control Act.

G. W. Ganong, ex-M. P.

Mr. G. W. Ganong, ex-M P., of St. Stephen, gave a short address. He congratulated the farmers on having such a splendid organization as the Farmers' and Dairymen's Association. He declared that he was an enthusiastic horticulturist, not for profit but for pleasure, and he urged the farmers not to put all the profits from their farms away out of sight in the banks, but return at least some of it to their farms, to cultivate a love for the beautiful, to plant flowers and shrubs around their homes and thus give a brighter outlook on life to their families.

The Wednesday Evening Session

was a patriotic conference. His Honor Lieutenant Governor Wood presided.

His Lordship Bishop Richardson delivered a strong practical address. He saw in the Farmers' and Dairymen's Association a forerunner of big things for the future. He trusted that the farmers of New Brunswick would ere long band together and exercise a far greater share in the political life of the province. The representation of farmers in the Legislatures of Eastern Canada is very small. Farmers should stand together and vote together. The spirit of cooperation should be more in evidence and there was no reason why the farmers of the province should not organize and cooperate in buying and selling their requirements and products. This system would put more money in the pockets of the producers and take less out of the coffers of the consumers.

The Bishop said that while matters were going on well in the province, the present is no time for optimism. What of the end? The war must not end too soon or Germany will have won ninety per cent of what she was fighting for. He also said that while the producers are doing good work, we must all take off our hats to the man or boy who shoulders the musket. He is the most patriotic man in our midst.

To be patriotic as producers it is necessary to attend to certain facts:—

1. Produce all you can by intensive cultivation and attending to every detail that the best authorities in the land recommend.

2. Make all the money you can, but make it honestly.

3. Spend as little as you can on matters that you are better without or that you can very well do without. Let your spending be along the line of improvements to your farm. Do not practice unproductive expenditure.

4. Save all the money you can. We are passing through a period of fictitious expenditure. Put your surplus funds in war loan certificates and bonds.

J. H. Grisdale, Director of experimental farms was to address this meeting, but owing to illness in his family, he was unable to attend and Prof. Cumming came over from Truro to take his place on the programme. Prof. Cumming said every physically fit man must face the issue of donning the khaki.

Those who stay at home have also an important duty to perform in the production of food, for food is an important factor in winning the war. Canada occupies an important place in the Empire's food supply. Our country is exerting supreme efforts and money must be secured to meet the obligations assumed.

The growing of plants is the only one means of exploiting nature without exhausting her resources. He went on to say that only five percent of the constituents of a plant came from the soil, the balance is supplied by water and air. The farmer has therefore only to attend to from five to eight percent of the work of supplying plant food, the God of Nature supplies all the rest. The work of growing crops is therefore that of cooperation between God and man.

The man power on our farms is now at a very low ebb and consequently the work of production is hindered. He then set forth the following ideas as how the farmers can increase production under the present circumstances:—

Make all plans for spring work early. Have the implements prepared so that no time will be lost when the season opens. Have the seeds and fertilizers ready. Use improved seeds —instead of ordinary seed—an increase of 10, 15, 20, 25 or more per cent can certainly be made in this way. If you use home grown seed use the fanning mill and sow only the best. Sow more clover seed. Use larger farm implements so that one man may practically do the work of two or more men when only small machines are used. Take better care of the farm yard manure. Improve the quality of stock by better feeding and breeding. Grow more of the feed required for stock. Increase the value of pasture lands by topdressing with basic slag and wood ashes. It is not enough that a farmer grow just enough for his own use in order to be patriotic. He must have a surplus to help feed the classes that are not producers of food, but who are nevertheless engaged in other useful work.

Hon. J. B. M. Baxter, Attorney General for the province, in the course of his address referred to the thousands that must come to the province when the war is over. The majority of these will be engrossed by the possibilities of agriculture. New Brunswick's patriotism is well represented at home and abroad. He feelingly referred to the vigils our boys are keeping in the trenches. In this earth there is nothing great but man—in man there is nothing great but mind. England has long since proved the principle that individual freedom is greater than collective freedom. It was the individuality of the farmers of England centuries ago that gave us the basis of the New Brunswick statutes of today. Having proved the merits of individual freedom, England is now on the verge of getting this boon for the smaller states of Europe. There are many ways by which we can do our bit, and we will do it freely not by compulsion. The renowned John Hambden would not give six cents for an oppression campaign, but he would contribute £'s for freedoms cause.

G. B. Ganong of Stephen was the last speaker of the evening.

Thursday Morning

How to Make Poultry Pay from a Farmers Standpoint was the subject of excellent talks by J. B. Daggett and Seth Jones of The New Brunswick department of agriculture at the Thursday morning session. They dealt with the subject very fully and answered a host of questions, which showed an increase interest in the industry. Both speakers pointed out the demand that exists for quality products and the vast possibilities of the well kept and cared for farmers flock.

J. B. Gaudet and Mr. DeGrass addressed the meeting so that the delegates from the French districts of the province could hear agricultural matters discussed in their native ton-

gue. They exhorted their compatriots to glean as much information as possible from the various addresses delivered at the convention. They asked them to take an active interest in the work of the association and carry messages of progress back to their respective districts.

Thursday Afternoon

H. N. Flewelling was the first speaker at the Thursday afternoon session. Mr. Flewelling has charge of Cow Testing Record Centre work in South Western New Brunswick. His records of the respective herds in his district make interesting reading and is proving a means of sounding the death knell of the boarder cows.

Increased Production in Three Years

	No. Herds	No. Cows	Av. Lbs. Milk	Av. Dbs. Butter Fat
1913	23	274	4000	190.0
1915	23	2f9	5312	222.1
Average increase			712	32.1

Mr. Flewelling showed the following charts of the work done in the herd, over which he has the oversight during the absence of their owner, who is in khaki:

COMPARISON OF COWS HERD B 1916.

Av. lbs. Milk	Av. lbs. B. Fat	Av. Food Cost Cwt. Milk	Lbs. Fat	Av. cost Feed	Av. value of Production	Av. Profit	Loss
			Whole Herd 24 Cows.				
5855	228.7	$1.14	28.8c	$66.87	$81.84	$14.96	
			12 Best Cows				
6717	270.1	1.07	26.6c	71.88	95.92	24.04	
			12 Poorest Cows				
4994	187.4	1.24	33.0c	61.87	67.76	5.89	
			6 Best Cows				
7186	296.4	1.00	24.2c	71.90	105.46	33.56	
			6 Poorest Cows				
4269	163.4	1.37	35.8	58.61	58.82		.21
			Best Cow				
8220	323.2	.92	23.4c	75.78	113.20	37.42	
			Poorest Cow				
3999	133.5	1.44	43.1c	57.57	49.62		7.95

Herd 1916—24 Cows.

12 Best	Credit	12 Poorest
$1,101.96	Value of Butter Fat	$ 764.52
232.08	Value of S. milk & B. F.	173.05
84.00	12 Grade Calves	36.00
192.00	Value of Manure	168.00
$1610.04		$1,141.57
	Debit	
$802.50	Cost of Feed	$742.44
360.00	Labor and Management	360.00
100.00	10% on Value of Barn	100.00
84.00	10% or Value of Cows	60.00
24.00	Medicine, Salt, etc	24.00
36.00	Service of Bull	36.00
24.00	Bedding and Ice	24.00
6.00	Tools and Utensile	6.00
36.00	Delivery of Cream	36.00
$1,532.56		$1,388.44
Profit $77.48		Loss $246.87

Profit and Loss

Herd 1916.—24 Cows.

Av. Production 5,855 lbs. milk, 227.7 lbs. fat.

Credit

5,488 lbs. B. Fat at 34c per lb	$1,865.92
1,350 lbs. skim milk and butter	
1,350 lbs. Skim Milk and butter fat at 30c cwt.....	405.09
24 grade calves, av. value $5.00	120.00
Value of manure, $15.0 per cow	360.00
	$2751.01

Debit

Cost of feed at $66.87 per cow	$1604.88
Labor & Management, $30 per Cow.....	720.00
10% Int. Taxes, Ins. and Depreciate on $2,000 hay...	200.00
10% Int. Taxes Cows at $60.00	144.00
Vet., Med., Salt and Spray, $2.00 per cow.....	48.00
Service of good pure bred bull, per cow $3.00.....	72.00
Bedding, $1.00, Ice $1.00, $2.00 per cow.....	48.00
Depreciation on tools and utensils 50c.....	12.00
Delivery of cream, $3.00 each	72.00
	$2920.88

Loss, $169.87

The various items on the charts were discussed and the audience expressed itself very freely on the points under discussion.

Expense sheets are not frequently considered by our dairymen. Mr. Flewelling's charts were somewhat of an innovation to the majority of the farmers at the meeting. The subject of profitable dairying was therefore brought to their notice by the speaker in a most appealing manner—the comparison of receipts and expenditures—Dollars and cents count.

Prof. Mitchell was the next speaker—his first address in his official capacity before the N. B. F. & D. A. He was well received. He asked for the cooperation of the farmers in advancing the livestock and dairy interests of the province. The cooperation of the farmers with the Dept. of Agriculture had been the means of his success in making the advances that had been made in Manitoba. He said the possibilities for live stock in New Brunswick may best be judged by the advantages the province affords, rather than by present actualities.

The province is capable of maintaining a population of over 4,000,000, at present we number in the vicinity of 370,000. We only have about 65,000 horses, whereas we could easily keep 450,000. Cattle 1 800,000 instead of the present 247,000, and sheep and swine 3,750,000 instead of our 225,000.

New Brunswick soils will produce in proportion to the state of their fertility and the care exercised in cultivating them. The basic principle underlying successful stock raising is the production of ample supplies of home grown feeds. The use of pure bred sires of high quality , the following of record keeping and community breeding are other factors that must claim the attention of all who would succeed as stockmen. In regard to the bonusing of pure bred stock purchased by agricultural societies, Mr. Mitchell said he would favor the introduction of a sliding scale whereby societies purchasing stock from high record sires and dams would receive special encouragement. He believed such a system would have a strong uplifting influence on the societies, and also on the breeders, as many of them would have to pay more attention to production in order to be able to sell their stock.

There is no reason why so much pork products should be annually imported to the province.

Prof. Mitchell then discussed the nutritive value of feeds and balanced rations. He put forth a plea for the better care of live stock. In regard to dairying, next to feeding, he said the keeping of individual records was the most important, then came the concentration of the manufacture of dairy products. He advocated cream gathering creameries as the proper type for the province, also the establishing of cream grading and the production of quality products which never lack a good market.

Mr. C. W. McDougall also pointed out the value of record keeping, not only of receipts but also of costs, the comparison of which must certainly provide food for thought for the individuals who take an interest in their work.

The Business Session

The business session was held Thursday evening. The resolution committee brought in the following resolutions, all of which were passed:—

A resolution asking the Dominion Government not to allow the introduction into Canada of the manufacture and sale of oleomargarine.

A resolution recommending that in view of services well and faithfully rendered on many occasions to the Association by Mr. Hubbard, that he be made an honorary member of the Executive of the Association.

A resolution asking for more adequate protection to sheep owners from the ravages of dogs. The substance of the resolution will be found on the editorial page of this issue.

A resolution asking the Department of Agriculture to establish egg circles in the province.

M. A. McLeod referred to the question of an abattoir for St. John, and suggested that a committee be appointed to consider the whole question and report at the next meeting.

Mr. Daggett announced that the Minister of Agriculture was at the present time considering this question and favored the appointment of such committee in order to strengthen the hands of the minister. The chairman appointed as the committee M. A. McLeod, Prof. Mitchell and H. H. Smith.

Following on the suggestion of Prof. Mitchell it was recommended to the department that the bonus paid for pure bred sires be on a sliding scale in accordance with the merits of said sire.

Officers for 1917

The report of the nominating committee was accepted as follows:—

Isaac Baird, Chipman, president; R. R. Patchell, St. John, vice-president; C. M. Shaw, Hartland, recording secretary; A. R. Wetmore, Clifton, corresponding secretary; H. H. Smith, Hoyt Station, treasurer.

County vice-presidents—Albert, C. E. Newcombe Hopewell Hill; Carleton, Scott A. Shaw, Hartland; Char-

(Continued on page 275

RENNIE'S
NEW HIGH GRADE SEEDS

Asternium, the new big Comet Aster, pink, white or mixed. Pkg. 15c.
Mammoth Cosmos, crimson, white, pink or mixed. Pkg. 10c, 3 for 25c.
New Red Sunflower, beautiful and showy. Pkg. 25c.
Scarlet Runners, popular climber. Pkg. 10c, 4 oz. 15c, lb. 50c.
Spencer Sweet Peas, good mixed colors. Pkg. 10c, oz. 25c, 4 oz. 80c, lb. $2.40.
XXX Imperial Japanese Morning Glory, all colors. Pkg. 10c, oz. 35c.
Triple Curled Parsley, dwarf dark green. Pkg. 5c, oz. 20c, 4 oz. 50c.
Ninety-Day Tomato, smooth and firm. Pkg. 10c, ½ oz. 30c, oz. 50c.
Rennie's Mammoth Green Squash. 403-lb. specimen. Pkg. 25c.
Crimson Giant Radish, early crisp. Pkg. 5c, oz. 15c, 4 oz. 40c, lb. $1.20.
Senator Peas, large, luscious Dwarf. 4 ozs. 15c, lb. 40c, 5 lbs. $1.75.
Yellow Globe Danvers Onion (black seed). Pkg. 5c, oz. 25c, lb. $2.10.
Rennie's Prize Swede Turnips, best for table or stock. 4 ozs. 20c, lb. 65c.
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FEBRUARY 20, 1917

DATES OF ISSUE.

March 6-20
April 10-24
May 8-29
June 12-26

OPEN LETTER TO SHEEP OWNERS AND FAIR MINDED DOG OWNERS

The advantages of the sheep industry are so well known that, with our friend, Geo. E. O'Brien, who has charge of the work of encouraging the work in the Maritime Provinces, we would say they need not be recounted. Suffice to say that never in the history of the Maritime Provinces did such high prices for wool, lamb, mutton and breeding stock prevail as during the seasons of 1916. And those who are in position to forecast the world's markets, tell us that never again will the prices for these commodities sink to figures that will not leave a handsome dividend on labor and investment.

In spite of these facts our flocks are not increasing in numbers nor are the individual flocks increasing in size. In fact, we are told that there is a decrease in the number of flocks and such is also our own observation. The "why" of the decline was clearly set forth by the various speakers at the Nova Scotia and New Brunswick Farmers' Associations recently held respectively at Amherst and Fredericton.

The Fence problem and The Dog Nuisance were the two principal causes to which the decline was attributed.

The Fence Problem is one that is within the grasp and under the control of any person who wishes to embark in the industry or increase the size of his flock.

The Dog Nuisance is not so easily controlled. Thousands upon thousands in cold, hard cash have been lost by the sheep breeders of the Maritime Provinces through the ravages of dogs.

When a thief enters the premises of some business concern and carries away surreptitiously some of the belongings of the concern, and when the burglar breaks and enters some home, a hue and cry is raised and the officials whose duty it is to maintain law and order trail the offenders and bring them to judgment, even if the value of the stolen goods is trivial. Bears and wildcats do considerable damage in some localities and the law provides for the payment of a bonus for each and every bear or wild cat to the person supplying sufficient proof that he has reduced the number of these predatory animals.

Contrast the attitude in regard to sheep killing dogs. A farmer may lose from one to fifty or more sheep by the ravages of dogs—the damage may total a hundred times the damage done by the burglar or thief and the farmer is left to fight his own battles. If he can discover whose dog did the damage he may proceed to regain the value of the damage done, providing the owner is worth the amount. If the dog's owner is not worth the amount of damage done, the sheep owner has his trouble for his pay and is obliged to pay the costs and for ever after live in the bad graces of his neighbor.

There is not a county in the three Maritime Provinces but is interested in sheep. There is not a county in the three Maritime Provinces but could raise more sheep. There is not a county in the three Maritime Provinces that would not profit by keeping more sheep within its borders. There is not a county in the three Maritime Provinces where considerable damage is not done every year to sheep flocks by dogs. There is not a county in the Maritime Provinces in which there is not annually considerable damage done by dogs whose owners is not known, as the damage is usually done during the night. There is not a district in the Maritime Provinces through which dogs will not roam the whole length and breadth of the Municipality to destroy sheep and be back in their owners front yard next morning, looking as meek and innocent as you please. There is not a municipality in the three Maritime Provinces where every dog owner, nay 50% of the dog owners, can with a clear conscience and before their maker say "I can swear that my dog will not worry sheep if given a chance."

What is the use of the Federal and Local Departments of Agriculture to spend time and money in efforts to stimulate the sheep industry, when the sheep owner has no protection for his taxed sheep from untaxed dogs. The whole matter is simply ridiculous. Why are our law makers so chary of the dog owners? We are ready to admit with one of the dog advocates at the recent meeting of The New Brunswick Farmers' and Dairymen's Association, that there are some so called "respectable" dogs, but there are many, many more "unrespectable" dogs, and in this case the just must suffer for the misdeeds of the unjust. A respectable man will not consider it any hardship to par a tax on a respectable dog. The owners of the unrespectable dogs, when obliged to pay a tax on the useless curs, same as the sheep owner has to pay on the useful, profit producing sheep, will see them first safely across to the happy hunting grounds, the only safe place for such depridators.

There is not a dog owner in the Maritice Provinces who, when a dog tax comes in force, but will destroy his dog sooner than pay the tax, if the dog is not of much account—and their class is legion.

There is a dog law on the statutes of Nova Scotia and New Brunswick, but it is not in force.

Read the resolutions passed at the recent meetings of the Farmer's Association of the two provinces. The New Brunswick Farmers resolution:—

Resolved that the Legislature of the Province of New Brunswick he respectfully requested to amend, where necessary, the Act respecting the protection of sheep from dogs so as,

1. To make the tax on all dogs in a municipality compulsory—$1.00 for dogs, $5.00 for bitches and $1.00 for spayed bitches.

2. To give protection as per the act of 1909, Chap. xxvii, which reads as follows: "Any person may kill, (a) any dog which he sees pursuing, worrying or wounding any sheep or lamb; or (b) any dog giving tongue and terrifying any sheep or lamb on any farm; or (c) any dog which any person finds straying, on his or her premises at any time; provided always, that no dog so straying, either when securely mussled or accompanied by any person owing or possessing or having the charge or care of said dog, shall be so killed, unless there is reasonable apprehension that such dog if not killed is likely to pursue, worry, wound or terrify sheep or lambs then on said farm."

3. To make compensation in full, for damages sustained, compulsory, such to be payable by the municipality and to be recoverable by the municipality from the owner or owners of the dog or dogs causing the damage.

Competent assessors be appointed by the municipality to fix damages.

The Nova Scotia Farmers Resolution:—

Whereas, the worrying and killing of sheep by dogs has caused a great decrease in the number of sheep maintained in the Provinces of Nova Scotia, and

Whereas, other provinces of this Dominion have enacted laws which provide for the protection of sheep from depredation by dogs,

Therefore resolved, that we, the farmers of Nova Scotia, assembled in convention at Amherst, appoint a committee whose duty it shall be to go before the Legislature of this Province at its incoming session, and present the views of this convention asking the Legislature to enact such regulation in this matter as we deem advisable.

The farmers recommended a tax of $1.00 on dogs and spayed bitches and $5.00 on bitches.

2. The privilege to kill roaming dogs as now permitted by the present Act.

3. Compensation for damage done out of the funds of the municipality.

There are no radical changes nor no unreasonable demands in either of the foregoing resolutions. The law is now on the statutes of the respective provinces, but is not enforced. The sheep owners and the best thinking public minded dog owners ask that it be enforced—compulsory, not left to be a bone of contention between neighbor and neighbor.

A few dog owners are opposed to the making of the law compulsory. Review these men—weigh them in the balance. Are they the class of men that stand for everything that is progressive in your community or are they the kind that are content to work along in any old rut and habitually hinder progress? A Fredericton about ten farmers signed a petition asking that dogs be not taxed, and placed it in the question box, but only one of their number had the courage of their convictions to speak when the question was being discussed.

If you are in favor of having more adequate protection for the sheep industry in your prov-

ince, write a letter to your county representatives in your local legislature, asking them to give their support to such a scheme of protection. Also send the MARITIME FARMER a postal card saying "I have written Mr. ———, our county representative to support the sheep protection scheme." Get your neighbors to do likewise. Do it now. The Maritime Farmer will file all cards received and will place them in the hands of the Legislative Committees of the respective provinces to strengthen their hands in their work before their Legislature.

Annual Convention Nova Scotia Farmers' Ass'n.

(Continued from last issue)

Owing to lack of space we were obliged to carry over a portion of the report of the Annual Meeting of the Nova Scotia Farmers Association. We discontinued our report at the conclusion of the reading of the exhibition commissioners report. The report in question was discussed and adopted, the meeting being well satisfied that the commissioners had done the work entrusted to them satisfactorily.

Women's Institutes What They Are and What They Have Done

Women's Institutes What they Are and What They Have Done was the subject of an interesting talk by Miss Jennie A. Fraser, the efficient and popular superintendent of Women's Institutes for the province. Miss Fraser congratulated the Association on having attained its majority, and said this was her fourth appearance before the Nova Scotia Farmers Parliament. There are forty nine womens institutes in the province, with a membership of nearly 1600 and their work has extended to the trenches, where our brave soldiers are fighting for us. At the close of the war many sections of the province will be ripe for the organization of Institutes to take the place of Red Cross and kindred societies. Miss Fraser then enumerated the contributions and donations made by the Women's Institutes of Nova Scotia for patriotic and relief purpose, all of which speak in accents louder than words of the self sacrifice of the women who compose the various institutes.

But the institute work did not consist of patriotic and relief work alone, they have also been busy along social and community work in their respective sections Nearly every institute takes a keen interest in the work of its local school. These schools have profited to a considerable extent. Water-coolers, individual drinking cups, new maps, girls sewing classes, school exhibitions, painted school houses and even the election of one or more women members to the school boards are just a few of the advantages for which some schools are indebted to their local Institutes.

Some of the institutes have entertained the soldiers quartered in their vicinity. Some are doing charity work. Others are improving conditions in their neighborhood as testify by better kept cemetery, church and school grounds and better sidewalks. In one locality a light was placed in front of the church and Miss Fraser humorously remarked it was not appreciated by the shyer young men of the congregation.

Miss Fraser then referred to the exhibition of arts and crafts at Halifax last fall and the demonstrations in weaving, etc. We have given a full report of the above mentioned exhibit in our report of the Halifax Exhibiton and consequently it will not be necessary to refer to it in detail, suffice to say that the demonstration was the best ever attempted at a Martitime fair.

The value of "a head in the home" to plan and make use of labor saving devices and the arrangement of kitchen, pantry, etc., were emphasized by Miss Fraser, who in concluding her address, said the work of the womens institutes is causing our women to take an increased interest in life and in the work of maintaining the empire.

THE ROAD PROBLEM IN NOVA SCOTIA

W. G. Yorston, Assistant road commissioner for Nova Scotia then addressed the meeting on "The Road Problem in Nova Scotia." We are planning to give our readers the gist of this address in a future issue.

Thursday Morning

The report of the credentials committee showed that there were 42 delegates from agricultural societies, 25 from county farmers associations and two delegates from the N. S. Fruit Growers Assn. attending the convention.

Mr. Robb of Amherst appeared before the meeting and explained the aims and objects of The Good Roads Association of Nova Scotia and was followed by Mr. C. D. Shipley, a representative of the Union of Municipalities.

Mr. F. L. Fuller remarked that if the Halifax exhibition is to become a purely agricultural show, it must be held at a later date, after the various county exhibitions are held and that it would be an educative plan to have the first prize winners from the smaller shows brought to Halifax. Messrs. Wm. O'Brien, A. S. McMillan, S. A. Logan, H. W. Corning, J. McFarlane and F. L. Fuller were appointed to look into the feasability of the plan outlined by Mr. Fuller.

The Election of Officers

President—Wm. Murray, Union Centre.

1st Vice-Pres.—Samuel Freeman, Amherst.

2nd Vice-Pres.—Ronald McDonald, Ohio.

Directors—Walter Churchill, Johnson Cameron, Robt. Newcomb, J. W. Allen, Wallace Rhodenizer.

Exhibition Commissioners—F. W. Foster and H. S. Kennedy.

Auditors—J. M. Trueman and J. P. Landry.

At a subsequent meeting of officers, C. R. B. Bryan was reelected Sec.-Treas.

The Closing Session

The closing session was held on Thursday afternoon. H. S. Kennedy led a discussion on the protection of the pure bred sire.

The following resolutions of last year's meeting were reaffirmed.

To the Legislative Council of Nova Scotia:

Whereas your honorable body have been enacting laws to improve the horse stock of the province of Nova Scotia, and

Whereas the Stallion Law as it at present stands is now effective enough owing the large number of grade and unsound stallions offering for service;

Therefore, we ask your honorable body to add a clause to the present stallion law doing away with all grade and unsound stallions before January 1, 1918.

We would also ask to have an inspector appointed at once for the purpose of enforcing the stallion law as it stands at present,

* * *

Whereas, the menace of allowing grade or scrub bulls to be used for service has been for many years acknowledged by the best farmers of Nova Scotia.

Therefore, be it resolved that we recommend that steps be taken to obtain such legislation as will remove this menace and to this end that a uniformly worded petition in blank be sent to each agricultural society in the province with the request that the members sign their names and return to the committee appointed for such purpose.—R. J. Messenger, Wm. Murray.

Adopted, and the following petition in blank authorized to be sent to each agricultural society in the province for the signature of the members:

Petition

We, the members of Agricultural Society respectfully request that legislation be enacted to prohibit the use for public service of grade or mongrel bulls within the limits of Agricultural Societies and Live Stock Associations, or wherever pure bred bulls are otherwise available, for public service, at reasonable fees, in the province of Nova Scotia.

In the case of the latter resolution it may be said that petitions were circulted and they were returned to Mr. Fuller, signed by about 1800 members of Agricultural Societies. Mr. Fuller said there would be no trouble to get the foregoing resolutions passed and enacted by our legislature, providing we want them to do so. The strongest lever for the passing of such acts would be personal letters from voters to their respective representatives.

Messrs. R. J. Messenger and Wm. O'Brien were appointed as Legislative Committee to lobby the farmers cause at Halifax.

The following resolutions were passed:

Whereas, it is felt that the present system of Municipal taxation discriminates unfairly against the man who has improved his property and correspondingly favors the man who has not effected improvements in his real estate, and

Whereas there is a lack of uniformity in the basis of assessments in the various counties of the Province and

Whereas it would be in the best interests of the Province if an equitable basis of assessment were established that would apply in all the counties of the Profince.

Therefore Resolved that the N. S. Farmers Association do petition the Government of Nova Scotia to appoint a commission to inquire into the system of municipal taxation prevailing in the Province with a view to fixing a more equitable basis of assessment in all the Counties of the Province.

Moved by Wm. Murray, seconded by D. R. Crocket.

* * *

Whereas, the importance of an abundant and cheap supply of Commercial Fertilizer is one of the most important factors in crop production, especially in Eastern Canada, and

Whereas the "dog fish fertilizer" produced at the dog fish reduction works operated by the Department of Marine and Fisheries of the Dominion Government, has proved a most valuable fertilizer and

Whereas the quantity of this dog fish fertilizer is not equal to the demand for it

Therefore Resolved that this Nova Scotia Farmers Association in Annual Convention do petition the Hon. the Minister of Marine and Fisheries to take strong measures to increase the production from the dog fish fertilizer factories.

Moved by Wallace Rhodinizer, seconded by W. H. Woodworth.

Whereas Farmers Cooperative Associations have been organized in Pictou, Antigonish, Inverness, Cape Breton and Halifax Counties and

Whereas a demand exists among several of these Associations for the organization of a Central Association to buy and sell for these Individual Associations,

Therefore Resolved, that this N. S. Farmers Association in Annual Convention do request the Provincial Government to enact Legislation whereby a Central Organization may be incorporated with which such Associations, subordinate thereto might affiliate to handle and conduct the common business of the Associations from a single centre.

Moved by H. S. Shaw, seconded by H. P. Blanchard.

* * *

Whereas. It has been and is the policy of both the Federal and Local Government to aid, both by public grants and otherwise, in the advancement of the agriculture interests throughout the Dominion and in the proper care and treatment of the land—the prosperity of which being at the base of all other solid and lasting prosperity, and

Whereas, It has for a long time been profoundly recognied that, at least, in the Province of Nova Scotia, the true fundamental need of all the clay up-lands is under drainage which renders them the most fertile and lasting productive of all, but without

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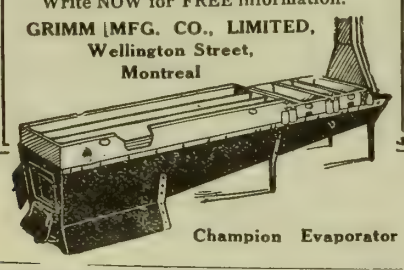

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Yours very truly,
T. G. McMULLEN.

which, notwithstanding the most advanced culture, care and treatment otherwise, the labours of the farmer are largely unavailing and

Whereas, In view of the scarcity and cost of manual labor, the proper under-drainage of the individual farm is beyond the means and ability of the individual farmer by physical methods, although were mechanical methods available he would and could easily avail himself of them and

Whereas, Owing to the limited resources, the Provincial Government of Nova Scotia, has been unable thus far, to provide more than one ditching machine for the Province, and it is felt that in view of the great need, such provision is totally inadequate and that one such machine should be at the service of each County, and

Whereas, the recently promulgated and most wise policy of the Dominion Government is—outside of and beyond its own immediate agricultural aids and activities—to aid the provinces by additional grants and subventions.

Be it therefore Resolved, that the Dominion Government be respectfully memorialized by this resolution to give effect thereto and provide, as soon as may be, for each County in Nova Scotia, as a permanent asset of the Dominion, a ditching machine to be controlled and operated by its own officers and to be (upon payment of such reasonable charges as will compensate the interest on the cost, the expenses of operation and thecreation of a sinking fund for the eventual liquidation of the principal) at the servioe of the farmers of this Province.

Be it further Resolved, that copies of this resolution be forwarded to the Rt. Honorable, the Premier of the Dominion, and to the Honorable the Minister of Agriculture."

* * *

Whereas, all the Insurance Companies are advancing the rate of Insurance on Farm Buildings at the first of February to two per cent for three years, and

Whereas, Cooperative or Mutual Insurance Companies have been able to carry risks at about half that amount, and

Whereas, The County or Local Fire Insurance Companies are not large enough to assure the degree of security which might be desired

Therefore Resolved, that a Committee of three with power to add, be appointed from this Nova Scotia Farmers Association to get information and if deemed advisable to organize a Farmers Mutual Association.

Moved by C. H. Black, seconded by W. H. Woodworth.

The foregoing resolution was carried and Messrs. H. S. Kennedy, B. H. Lea and A. S. MacMillan were appointed to investigate and report at the next annual meeting.

* * *

Whereas, an agitation has been brought to bear on the Government of the Dominion of Canada, to permit the importation and manufacture of oleomargarine in Canada, as a substitute for butter, and

Whereas, after giving this matter consideration, we believe that this would be detrimental to the diary interests in Canada, and

Whereas, in the countries where oleomargarine is sold, it is not giving any real relief to the consumer, due to the fact that the price of oleomargarine is kept as near as possible to the price of butter, and

Whereas, we believe that the sale of oleomargarine would seriously affect the consumption of butter,

Be it resolved that we, the N. S. Farmers Association of Nova Scotia in annual Convention here assembled, place ourselves on record as being opposed to the lifting of the restrictions as they at present exist, and that a copy of this resolution be forwarded to the Minister of Trade and Commerce and also to the Minister of Agriculture at Ottawa.

Moved by F. W. Foster, seconded by P. C. Blanchard.

* * *

Whereas, the worrying and killing of sheep by dogs has caused a great decrease in the number of sheep maintained in the Province of Nova Scotia, and

Whereas, other Provinces of this Dominion have enacted laws which provide for the protection of sheep from depredation by dogs,

Therefore Resolved, that we, the farmers of Nova Scotia here assembled in Convention appoint a committee whose duty it shall be to go before the Legislature of this Province at its incoming session, and present the views of this Convention asking the Legislature to enact such regulation in this matter as we shall deem advisable.

Moved by C. P. Blanchard, seconded by A. Hector Cutten.

* * *

A resolution indorsing the aims and objects of the Good Roads Association and of the Union of the Municipalities in efforts for better roads was pasesd with a recommendation that the Provincial Parliament act on it.

A THREE DAYS APPLE PACKING SCHOOL WILL BE HELD AT FREDICTON, FEBRUARY 27, 28, AND MARCH 1ST, 1917

Instructors.—Mr. P. J. Carey, of Toronto, Packing Expert and Demonstrator of the staff of the Federal Fruit Division, will be in charge, assisted by officials of the Provincial Horticultural Division. It is also expected that Mr. George H. Vroom, Chief Fruit Inspector for Nova Scotia, and Mr. S. L. Peters, Fruit Inspector for New Brunswick will be present.

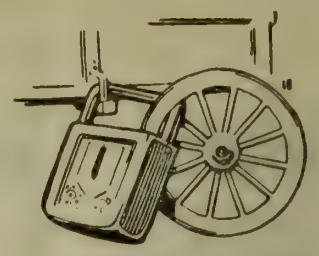
Object of The Course.—The object of this course is to furnish an opportunity for interested parties to learn the proper grading of apples, and the packing of them into both boxes and barrels, by doing the actual work themselves under competent instructors for as many hours as possible during the three days. Demonstrations of packing are practically useless, unless the students have practice in the actual work themselves long enough to learn, remember and be able to put into practical use later in their own orchards. Students enrolling for this course will be put to work at packing under the direction of the instructors, and should come prepared and determined to work hard and take home a good working knowledge of apple grading and packing that will enable them to pack their own fruit to much better advantage, and fit them for doing such work for others.

Men who know how to pack apples are needed in this province and the demand for such men is bound to increase.

Spraying.—Mr. George E. Sanders, Officer in charge of the Dominion Entomological Laboratory, Annapolis Royal, N. S., will give two lectures on spraying—the first on 'Insects of The Apple"—and the second on "Sprays and Spraying." These will probably be given early in the course, on the first day and the morning of the second day.

In addition to his entomological training and experience Mr. Sanders is a practical apple grower, and has for some years been conducting spraying experiments for the Dominion Entomological Branch in the Annapolis Valley. No man in the Maritime Provinces is better qualified to speak on this question of spraying. Mr. Sanders will have on exhibition specimens of injury to the apple by the various insects, also six cases of specimens of the eggs, larvae, pupae and adults of some of the most common orchard insects. He will also demonstrate the various spraying nozzles, the mixing of the new Bordeaux, and the effect of arsenate of lead and arsenate of lime on lime and sulphur. It is hoped to have on hand a small power spraying outfit suitable for New Brunswick orchards.

While Mr. Sanders will only give the two lectures and the demonstra-



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1917 potatoes will undoubtedly command high prices. Buy a

Eureka Potato Planter

now. The Eureka line is the largest made. Three sizes, one or two rows, with or without fertilizer attachment. Used successfully for 18 years. Operated by one man, meaning less trouble and expense. Opens furrow, drops seed any distance or depth, puts on fertilizer (if desired), covers up and marks next row, all automatically. Driver sees seed drop. Does not injure seed.

Ask for catalog of Potato Cutters, Sprayers and Potato Diggers—the Eureka Line of Potato Machinery.

Write today. Sold by

FROST & WOOD CO., Ltd., St. John, N. B.

Eureka Mower Co.
Box 718
Utica, N. Y.

Strawberries

It is not too early to think about this years strawberry acre. We can supply plants from all the varieties most profitable in the Maritime Provinces. Our new Catalogue, out this month, tells all about them. eLet us send it to you; learn about the fall bearing strawberries, they are a real success.

CYRUS & MANNING ELLS,
Port Williams, N. S.

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N S.

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

tions, he will be present during the whole course, and thus available for individual consultation on spraying matters.

Hours of Instruction.—The course will open on the first day, Tuesday, February 27th, at 10 a. m., and on succeeding days at 9 a. m. Students so desiring will be able to continue the work in the evenings.

Equipment.—Excellent quarters have been secured in the Parliament Buildings in which to hold the course. The necessary supply of proper packing tables, presses, boxes, barrels, apples, etc., will be there. It is also expected to have on exhibition samples of American Boxed Apples and of New Brunswick, Nova Scotia, and Ontario barrel packs.

Free Railway Transportation.—Students coming by rail to attend this course should purchase ordinary return ticket, obtaining a voucher for the cost of the same from the ticket agent, and on presentation of that voucher the Department of Agriculture will refund the amount of the fare.

A Word About Attendance.—Every effort is being asserted to make this course of the utmost value to you. You need the knowledge in your orchard work and as long as you remain without it your orchard will not pay you as much profit as it should and can. Therefore, you should make some sacrifices to leave the work on your farm and attend this school, even to the extent of hiring someone to do your work while you are away. The knowledge you will gain will more than repay you for any such expense or sacrifice incurred.

You will get far more benefit from the course if you attend for the three full days, but if that is impossible, come for as long as you can and at least one full day.

Extension of Course.—If there is a demand by a sufficient number of those in attendance the course can be extended and the work continued on Friday, March 2nd.

Evening Sessions.—If a sufficient number of students desire one or more evening sessions I shall be glad to arrange for them. The Department has a large collection of lantern slides illustrating almost all phases of apple growing and could arrange for one or more illustrated lectures, or other desired addresses.

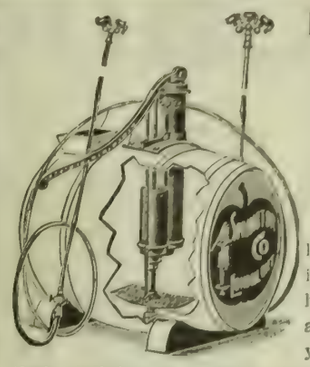
Importance of Sending Application.—It is essential that I should receive, at the earliest possible moment, applications from those intending to attend this course for all or part of the time, in order to provide ample table space, fruit and all necessary equipment.

Do not fail to send in your application at once.—I earnestly hope that a majority of the leading apple growers of the province will be present at this course, so that they may get together in a real live meeting at which they will determine, starting this year, to give their orchards that better care and greater share of attention which their producing possibilities merit. Until this is done we cannot hope for that development of the apple industry in New Brunswick which the favorable conditions of soil and climate rightly lead us to expect.

This is an opportunity for the live fruit growers of this province to obtain some much needed information, to get to know each other better, and to gather in convention with the express purpose of determination upon a definite course of action that will bring about, as speedily as possible, an improvement and development of apple growing in New Brunswick.

The day when isolated and independent effort is satisfactorily efficient is past-combined and concerted action is essential—Co-operation is now the Keynote—Let us strike it at this meeting.

A. G. TURNEY, Horticulturist.



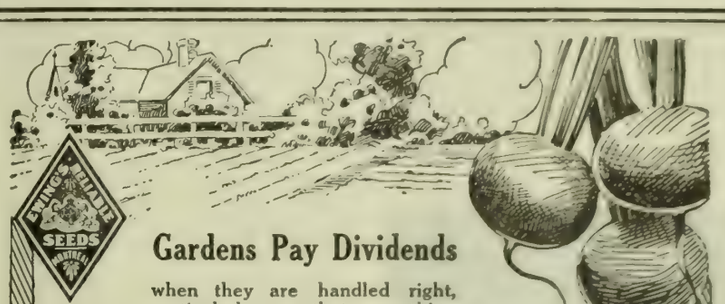
Insure Your Crops with a Spramotor

It isn't a SPRAMOTOR unless we made it.

You find it good business to insure your life, your health, your home, then why not insure your crops upon which your livelihood depends. A few minutes' work with a Spramotor at suitable intervals will rid your crops of fungus diseases, and assure their arriving at maturity in that hard, healthful condition that secures first-grade prices. We have Spramotors adapted for every kind of spraying in every part of the world. Let us quote you prices and terms to meet your own special needs. Meanwhile write for a copy of our booklet which describes the various styles of spramotors and gives valuable information about the treatment of crop diseases.

Made in Canada. No duty to pay.

THE LONDON SPRAMOTOR,
3075 King St. East, LONDON, CANADA.



EWING'S RELIABLE SEEDS MONTREAL

Gardens Pay Dividends

when they are handled right, particularly now that everything eatable is so expensive.

Nothing is more important than the selection of seeds, and for this the safest guide is our new Illustrated Catalogue of

EWING'S SEEDS

No unworthy variety gets into this Catalogue—and no poor seeds go out to those who order from it.

Ewing's Seeds have produced forty-five successive and most successful crops in Canadian gardens and fields, and are ready now for the forty-sixth. Why not have a share in it?

Write now for this Catalogue, and if your Dealer hasn't Ewing's Seeds, order from us direct.

THE WILLIAM EWING CO., LIMITED
Seed Merchants, McGill Street, Montreal.

Ewing's Detroit Dark Red Turnip Beet

Valuable for its remarkable uniformity and smoothness; size medium; flesh rich red, fine-grained, tender and remaining so for a long time; admirable for either summer, fall or winter use. The tops are dark-colored and vigorous. One of the best varieties for the home garden or market and equally good to store for winter. Lb. $1.50, ¼ lb. 50c; oz. 20c; Pkt. 5c. Sent postage paid — cash with order.

52

The Best Seeds that Grow

THERE is neither pride, pleasure, or profit in sowing poor seeds. For if you do save a dollar on your so-called "cheap" seeds, you lose it gain, and more, too, on what comes up.

Bruce's Seeds

Resolve this year to beat all records. And build up this resolution on the basis of good seeds, tested seeds, seeds that have always given good results—in other words, Bruce's Seeds.

CATALOGUE NOW READY Every one of the 128 pages of Bruce's Seed Catalogue is brimful of interest and information for both the amateur and the professional planters, and will be mailed FREE to all requesting same. Catalogue shows in addition to Seeds, Plants and Bulbs, Poultry Supplies and Garden Implements. Address

JOHN A. BRUCE & CO., LIMITED Established 1850 **HAMILTON, ONT.**

Butter Parchment at Record Office

DAIRYING.

SUCCESSFUL LaHAVE CREAMERY

When the Nova Scotia Farmers Association was in session at Bridgewater, N. S., during the closing days of January, 1914, many of the delegates availed themselves of the opportunity to visit the creamery then under the course of construction for the La Have Creamery Co. of Bridgewater. The LaHave Creamery Co. was organized in the fall of 1913. It is a strictly co-operative body capitalized at $10,000 and made up of 500 shares of $20.00 each. No one man or shareholder is allowed more than ten votes no matter how many shares he may hold, but one vote is allowed for every share held up to ten shares. The company is not allowed to pay over six per cent in dividends in any one year, so that the cream producers may receive the maximum amount for their cream.

The creamery opened for business on May 4th, 1914, Queens, Annapolis and Lunenburg farmers supplying cream. The first year's output amounted to 75,000 pounds butter and 1800 quarts ice cream. The year 1915 saw the output increased to 145,000 pounds butter and 8000 quarts ice cream. In 1916 the output increased to 214,000 pounds butter and 9000 quarts ice cream. The value of business done in 1914 was $25,000 and in 1916 $75,000. The patrons number 550.

J. D. McKENZIE,

Sec.-Treas. and Manager LaHave Creamery Co., Bridgewater, N. S.

The LaHave Creamery Co. also handle flour and feed for the patrons and shareholders at as near cost as it can be handled. Thirty carloads were handled in this way during 1916.

The farmers of Lunenburg and adjoining counties are a thrifty, industrious class. By patronizing the creamery they get the best market prices for their butter fat and have the privilege of buying supplies at lowest market figures. That they find the creamery a paying venture is evident by the way in which they are increasing its production.

The president of this enterprising creamery is Mr. C. R. DeLong of New Germany and the Sec.-Treas. and Manager is Mr. J. D. McKenzie.

Mr. McKenzie is a native of Ontario. Superintendent W. A. MacKay was instrumental in bringing him to Nova Scotia, and is to be congratulated on his good judgment in securing the services of such a practical and capable manager for The LaHave Creamery Co. Mr. MacKay has been so successful in the guidance of dairy industries and has been in so close touch with Canada's foremost buttermakers, that he can size up a man's calibre as creamery man at first glance. The creamery men of Nova Scotia are with Mr. McKay in any scheme he may undertake for the advancement of their industry. They all realize that Mr. MacKay does not advance unworkable theories and that before he advances an idea he has given it thoughtful consideration and viewed it from every angle. With a man of such calibre as superintendent of dairying in Nova Scotia and with such harmony and co-operation existing between him and the various creamery managers and patrons, is it any wonder that dairying is advancing by leaps and boounds in the Mayflower province.

The LaHave Creamery is proving a boon to the farmers of Lunenburg and adioining counties.

At the butter exhibition held in connection with the recent annual meeting of The Nova Scotia Dairymens Association, the highest scoring sample was the product of The LaHave Creamery, a 28 lb. box new made butter scoring 96.4. Their print butter scored 96.1 and their box of October butter scored 93.3, only .5 of one percent below the first prize winner of the class.

The butter buyers trophy for the highest scoring butter at the show was therefore captured by The LaHave Creamery Co., and to commemorate the event, Mr. McKenzie entertained the Association at a banquet on the closing evening of the association. Mr. McKenzie also took part in the butter scoring competition conducted by the Dairymen's Association and succeeded in tieing for first place.

Mr. McKenzie says the prize butter was made from their best cream, which they were particular to have of good flavor and properly ripened. We understand the cream grading system is followed with good success by The LaHave Creamery Co. It is prov-

Callers

Of course they will take a cup of tea, and naturally you are anxious it should be *"just so."*

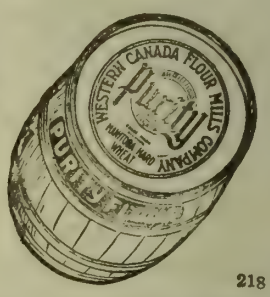
Pin your faith to KING COLE next time, and see how well it will serve you.

"You'll like the flavor"

What's in a name?

Ask the cooks who use

PURITY FLOUR



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"MORE BREAD AND BETTER BREAD"

$16.95 Upward ON TRIAL

American FULLY GUARANTEED CREAM SEPARATOR

A SOLID PROPOSITION to send *new*, well made, easy running, perfect skimming separator for only $16.95. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a *sanitary marvel*, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy

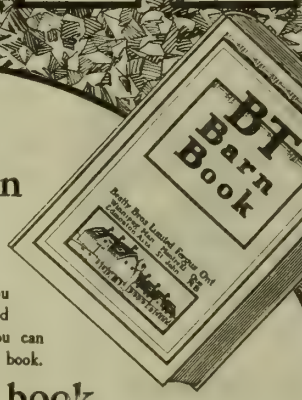
Monthly Payment Plan

Shipments made promptly from **Winnipeg, Man., Toronto, Ont.** and **St. John, N. B.** Whether dairy is large or small, write for handsome free catalog and easy payment plan.

AMERICAN SEPARATOR CO.
Box 3212 Bainbridge, N. Y.

FREE!

To every man who is building or remodelling his barn



THIS BT Barn Book shows you how to build your barn from start to finish; tells how to lay the cement floors, foundations, and how to build the walls. It shows you how you can frame your barn by a method that saves half the cost of the old way. You can build or remodel your barn yourself with this book.

This new 336-page book

It is the most elaborate book on Barn Building ever published. Contains many full page and double page pictures of the best Canadian Barns and many big blue prints that show clearly every detail of construction. Full of useful tables showing measurements for mangers, gutters, cattle-stands; costs of cement work; sizes for doors and windows. Capacities of silos and mows. Contains 14 working plans of model barns. Also shows BT Galvanized Steel Stalls, Horse Stable Fittings, Steel Hog Pens, Manure, Feed and Hay Carriers, and Water Bowls.

Mail Coupon

It cost us thousands of dollars to print this book. Yet, we offer it free to any man who will write and state if he is building or remodelling, when he expects to start the work and the number of head of stock he will keep.

Simply fill in the blanks of the coupon, and we will send the book by first mail.

Beatty Bros., Limited
Dept. U-214, Marsh Road ST. JOHN, N.B.

FREE COUPON

Beatty Bros. Ltd., Dept. U-214, Marsh Rd., St. John, N.B.
Gentlemen: Send me your Barn Book, Free.

Are you thinking of building, or remodelling?.....

When will you start?.....

How many cows will you keep?.....

Your name.....

P.O..... Prov.....

A Sure Prize Winner

Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED 178

ing a great impetus to the cream producers to receive a higher price for high grade quality. If any patron does not receive the highest price for his butter fat he realizes the fault is his own and it is to his own detriment if he does not rectify the conditions that tend to deteriorate the quality of his cream.

We wish to congratulate the patrons of LaHave Creamery for the progress they have made and for the success their product has achieved. Mr. McKenzie does not take all the credit to himself. He says that his success as a buttermaker at Bridgewater is due to the fact that he has been backed in the making of quality products by quality patrons.

A GOOD JERSEY RECORD AT EXPERIMENTAL FARM, OTTAWA

The Junior 2 year old Jersey heifer **Brampton Central Princess**—4723—developed and owned by the Experimental Farm, Ottawa, has just completed a year's test on record of performance establishing a new Canadian butter fat record for junior 2 year heifer of this breed. Freshening at 2 years and 137 days she produced in 365 days 9241.5 lbs. of milk testing 5.3% fat or 490.185 lbs. fat equivalent to 576.69 lbs. of butter, testing 85% fat. In this class she replaces her half sister Brampton Bright Kathleen which heifer, freshening at 2 years and 89 days, produced 9295 lbs. milk and 442 lbs. fat in 365 days.

Brampton Central Princess was bred by B. H. Bull & Sons, Brampton, Ont. Her sire is the famous bull Violas Bright Prince (Imp)—2803—the senior sire of the Brampton Jerseys, and which has a very large number of official record daughters of outstanding individual excellence in Canada, United States, Australia, New Zealand, and Jersey Islands.

The dam of Brampton Central Princess is Brampton Rosa Bonheur (Imp)—2519—owned by the Experimental Farm, Ottawa. This cow at 5 years produced 9250 lbs. milk testing 5.09% fat in 328 days and freshened in 335 days. She is by the noted sire Zara's Jap.—4121 P. S.

Brampton Central Princess consumed the following feeds during the 2 months before freshening and the 12 months on test.

3300 lbs. meal at $25.00 per ton	$41.25
2186 lbs. hay at $7.00 per ton..	7.65
11435 lbs. ensilage and roots $2.00 per ton.....	11.43
1350 lbs. Green feed $3.00 per ton	2.02
1 month pasture at $1.00 per ton	1.00
Total cost of feed.....	$63.35

The meal mixture was varied from time to time during test, but on an average was composed of:—

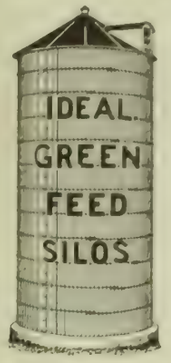
Bran	4 parts
Linseed oil meal.....	1 part
Dried Distiller's Grains....	1 part
Gluten Feed.....	2 parts
Ground Oats.....	1 part

Valuing her butter at 35c per lb. and skim milk at 20c per hundredweight, she made a profit of $156.00 over feed.

Valuing her milk at 8c per quart she made a profit of $232.37 over feed. it will be noted that the feed cost of milk was 68.5c per hundredweight and of butter 10.98c per lb.

Examine all young calves for deformities, and remove rudimentary teats from the heifers, dehorn all cross-bred stock—this should be done during the first week by clipping the hair from the horn bud, and applying caustic potash. In the case of male calves, see that their testicles are well developed. Never use a bull with one testicle, as such a fault is generally hereditary.

This is the time of year when an



Made in Canada

IDEAL GREEN FEED SILO

would pay big returns

Rich, juicy silage would give you 25% more milk and cut a big slice off your feed bill into the bargain.

Grain is expensive, and cows fed only on grain and hay will not begin to produce as much milk as cows on a silage ration.

A cow's milk yield falls off during the winter months simply because under the dry feeding system she does not get the stimulating green feed that she has during the summer. Silage supplies this green feed and reproduces, to a great extent, the conditions that make her give a big yield of milk in the summer months when she is out at pasture.

Silage is the cheapest feed and the greatest milk-producing feed known. While it is especially valuable in the cold winter months when dairy products are bringing their highest prices and cows ordinarily give less milk, it is hardly less valuable during the dry summer months when pasturage is scarce. Many cow-owners find that it pays to feed carried-over silage when pastures fail, because by so doing they prevent the falling off in the milk yield that is never fully restored, even with the return of good pasturage in the fall.

A good silo is the best investment you can make—an investment that will return you 100% every year you have it. No other equipment you could add to your farm will give you as great returns. Make up your mind now that you will not let another winter find you without an Ideal Green Feed Silo.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogue of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

LIVE STOCK.

SHEEP CARCASS TEST OF THE SCORECARD

A wide thigh and a thick, full twist in a fat lamb are ordinarily associated with a high-cutting percent of leg. In like manner, a paunchy lamb is given credit for yielding a higher percent of plate than a thin-bodied one. Our score cards and judging standards have been built largely on a basis of proportion. Balance in the body has been the main thing upon which we have worked, and there has been little but the reasonableness of it to prove that the cutting yield of the carcass was influenced by the proportionate smallness or the proportionate size of the various parts of the lamb.

Eleven lambs were slaughtered at the Minnesota Experiment Station in an effort to get some check on the relation between our popular judging standards and the actual cutting percent. The conformation of the shorn lamb was recorded by measurements, lead forms, notes and pictures. These were duplicated in the carcass and the two lots compared with the cutting yield. Five of the lambs were rather common fine-wools, being narrow and deep-middled, with empty twists. The other six were medium-wool grades and crosses, and showed the breadth, fullness and blockiness which are associated with the mutton type. As might have been expected, the fine-wool lambs were rather thin, while those of the mutton type were fat.

Working on the basis of proportion, one would have expected the fine-wools to yield a greater percent of neck, fore-leg, shoulder and plate, and the medium-wools more rack, loin, leg and kidney fat. As it turned out, the fine-wools did cut out the most neck and fore-leg, and the medium-wools the most rack, loin and kidney fat. At the same time, the roomy, fine-wools yielded less plate than the medium-wools, and the full-twisted medium-wools less leg than the cat-hammed fine-wools.

The answer is, of course, condition. When an animal is thin a big proportion of the natural flesh which it carries is in the leg. As it fattens the plate, rack and loin thicken first and the leg last. Thus the fine-wools, though long-ribbed, cut 10.90 percent plate and flank, while the thick medium-wools, though trim, cut out 13.67 percent. In like manner the length and natural flesh in the legs of the fine-wools were enough to overcome their narrowness, and they yielded 32.94 percent of untrimmed leg to 28.81 percent for the well-made medium-wools. Taking out the bone and shank, the fine-wools still led with 31.58 percent leg to 27.59 percent for the medium-wools.

Throughout the test the proportionate width and length influenced the cutting yield, but influenced it only where condition was similar. Regardless of its effect on quality and dressing percent, covering in these tests proved to have the most important influence on the carcass yield from the cutting or butcher's standpoint. The average percentage yields of the wholesale cuts of lamb were as follows:

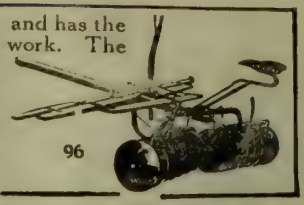
Cut	Average fine wool	Average medium wool
Neck	4.00	2.43
Plate and Flank..	10.90	13.67
Shoulder	20.28	20.08
Foreleg	4.54	3.52
Rack	13.38	13.89
Loin	10.40	12.52
Kidney Fat.....	3.56	5.08
Leg	32.94	28.81
Total	100.00	100.00

K. F. Warner.
University of Nebraska.

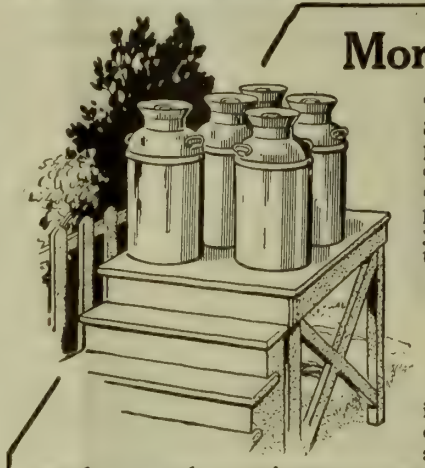
THE BACON HOG.—A GREAT OPPORTUNITY

From 1904 to 1914 Canada's export trade with Britain in hog products decreased and Denmark's increased. From 1914 Canada's export bacon trade has increased and Denmark's has gone the other way, showing a falling off of 73,000,000 pounds. For the fiscal year ending March 31, 1914, Canada's export of hog products totalled 23,620,861 pounds for 1915 the total was 72,036,025 pounds and for 1916, 144,150,309 pounds. The United States experienced a like increase. But so far as Canada is concerned, there is another side to the shield. On June 30, 1916, there were fewer hogs in this country than at any time during the previous ten years, and from 1911 to 1916 there was a decrease of one million. This serious state of affairs, as well as the opportunity that is before the country, is concisely and vividly pointed out in Phamplet No. 21 of the Live Stock Department at Ottawa, entitled "The Bacon Hog and the British Market" for which Messrs. John Bright, Live Stock Commissioner, and H. S. Arkell, Assistant Commissioner, are jointly responsible, and which can be had free on application to the Publications Branch, Department of Agriculture, Ottawa. Particularly unfortunate, says the pamphlet, is the decrease in the face of the rare opportunity that is offered us to further extend our "Wiltshire side" trade with the British market, a trade that for the year 1915 amounted in value to $15,957,652. In view of the facts here set forth it is hardly necessary to further refer to the gravity of the situation or to the opportunity that will be lost if our farmers and breeders do not bestir themselves. The joint authors point out that while we are not for specified reasons to occupy the market for fat hogs, that for the bacon hog is ours for the asking. They also call for regularity in the supply. "We cannot," they say, "go into the business for six months

The Bissell Disk takes hold of any soil, and has the "knack" of doing great work. The Disk Plates are of special design—they cut and turn the soil over. The draught is lighter, too, than any other Disk. In fact, you won't find another Harrow that can begin to compare with the record of the Bissell. Write Dept. M for free catalogue.



T. E. BISSELL COMPANY, LTD., ELORA, ONT.



More or Fuller Cans

Those who use Royal Purple Stock Specific secure from *3 to 5* pounds more milk from each cow per day. Figure the increase on even a small herd. It will pay you to feed Royal Purple to your cows, and steers can be fattened a month earlier by its use.

Royal Purple Stock Specific

is a digester, tonic, an animal conditioner. It aids digestion and assimilation and enables stock to get the maximum amount of good from the food eaten. Greater gains are secured from less grain, and the cost of the Royal Purple fed is very trifling. It will improve the condition of the worst, most run-down animal on your farm. If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Royal Purple Stock Specific is put up in 50c. packages and $1.50 and $5.00 tins.

W. A. Jenkins Mfg. Co., Ltd.
London, Canada

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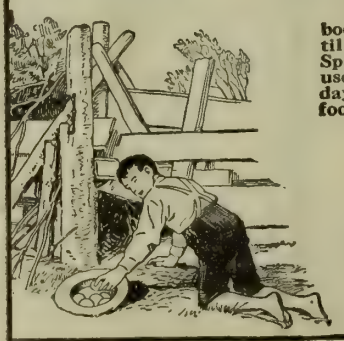
FREE BOOK

Write for FREE 80-page booklet on the common diseases of stock and poultry and our other products. It tells how to raise calves without milk, also how to build hen-houses.



Cases of Eggs Winter and Summer

Keep your fowl healthy, active and vigorous by feeding Royal Purple Poultry Specific in their mash, once daily, and you will certainly get eggs, winter and summer.

Mrs. W. Jackson, Saskatoon, writes:
"Gentlemen,—I tried feeding your Royal Purple Poultry Specific last winter. I had fresh eggs all the time. Sold eggs from January to the 1st of March, and I know it was the Specific did it, and the hens looked healthy after using it. I started feeding them again this fall, and got eggs in less than a week."

Royal Purple Poultry Specific

Manufactured from roots, herbs, minerals, etc., is a complete substitute for the grasses, seeds, herbs and insects the hen picks up during the summer, necessary in making hens lay. Royal Purple Poultry Specific tones up the whole system, keeps the stomach and bowels right—prevents diseases, such as Cholera, Roup, Rheumatism, Typhoid and kindred diseases.

Mr. J. Brandon, Ayr, writes as follows:
"Dear Sirs,—Kindly send me one of your booklets. We didn't have an egg all winter until we started using your Royal Purple Poultry Specific, and it is the best thing I have ever used. We are getting eleven to twelve eggs per day now on account of feeding them the right food."

Sold in 25 and 50c. packages and large $1.50 air-tight tins. Send for our FREE 80-page book on the common diseases of stock and poultry.

W. A. Jenkins Mfg. Co., Limited
London, Canada

38

WAS TROUBLED WITH HER LIVER FOR FIVE YEARS.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick headaches, the sourness of the stomach, belching of wind, heartburn, water brash, biliousness, etc.

Keep your bowels regular by using Milburn's Laxa-Liver Pills. They will clear away all the effete matter which collects in the system and thus do away with constipation and all its allied troubles.

Mrs. John Fitzgerald, Brittania Bay, Ont., writes: "I have been troubled with my stomach and liver for the past five years, and have had constipation causing headache, backache and dizzy spells, and sometimes I would almost fall down. I tried all kinds of remedies without obtaining any relief.

I commenced using Milburn's Laxa-Liver Pills, and they have cured me. I have recommended them to many of my friends, and they are all very much pleased with the results they have obtained from their use."

Milburn's Laxa-Liver Pills, 25c. a vial, 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

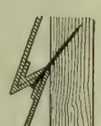
'Metallic' Clapboard Siding

YOU can quickly run up a neat, strong building—fire-proof and weather-proof—with Metallic Clap-board Siding. You save money,—wood sheeting is not needed, the Clap-board being nailed right on the studs. Outlasts the building it is put on.

"Metallic" Clapboard Siding

Made in heavily galvanized sheets 8 ft. long. Very easily handled. Far cheaper and more durable than wood. No knots or cracks and doesn't soak up paint.

Nailheads are sheltered from the weather (see small picture at right). Don't invite fire with wooden walls, etc. Use "M-R. Co." Clap-board Siding, "Eastlake" Galvanized Shingles, Ventilators, etc.



"Empire" Corrugated Iron, "Metallic" Ceilings, Pipe and Eave-Trough, "Metallic" Siding, Roof Lights, Vanes, Finials, etc.

Write us to-day for prices and illustrations. 176

METALLIC ROOFING CO. LTD.
TORONTO & WINNIPEG

"TITE WAD"
"STICKS LIKE A BULL-DOG"

THE ORIGINAL RUBBER PUTTY
Vulcanizes Without Heat.
Heat Does Not Affect It.

Don,t throw away old tires. rubber boots, rain-coats or hot water bottles,—buy a tin of Tite Wad—postpaid to any part of Canada. Put up in 3 sizes; 50c, $1.00 and $1.50. Guaranteed to do what we say or money refunded. Address mail orders: EDWIN SCHOFIELD, 24-26 Dalhousie St., Toronto, Ont. Montreal Branch: 26 Victoria Sq. Stock carried by SUMMER COMPANY, Moncton, N. B.

America's Pioneer Dog Remedies

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

Advertise in the Farmer

in the year and then go out of it for six months without having a general average of price that is unprofitable both to producer and packer." A good crop of hogs is required each month of the year. "If each farmer," the pamphlet says in conclusion, "maintains even one or, at most, two sows and manages these and their offsprings properly, there can be built up in Canada a very important and remunerative industry, not only yielding a permanent profit to the farmer, but as well materially assisting in preserving the commercial stability of the Dominion.

AYRSHIRES SELL WELL IN SCOTLAND

One of the most noted Ayrshire herds in Scotland is that of Mr. Thos. Barr, Hobsland, Moncton. In fact this herd is world famous, as many of the greatest Ayrshires of the United States, Canada, Japan and other countries have been selected from this herd. He now holds an Annual Sale of young bulls and cows. This was held on December 2nd inst., 1916, and eighteen bull calves realized $5135.00, an average of $285.00. The highest price, $1500, was paid for "HOBSLAND'S SCOTLAND'S BEST", a December .15 calf by "NETHERLAND SCOTLAND'S YET" out of "HOBSLAND'S JEAN" whose record in forty-eight weeks as a three year old, was 11,250 lbs. of milk testing 4.1%. Apparently there was keen competing for this bull. The dam of this youngster is a full sister of the renowned champion "HOBSLAND'S PERFECT PIECE", to which "SCOTLAND'S BEST" bears a strong resemblance. The next highest price was $430.00, paid for "HOBSLAND CORONET", a March calf of "HILLHOUSE MAJESTIC". The dam "HOBSLAND'S DOCKINS" has a record of 8,460 gallons of 3.81 milk, testing 3.81% in forty-three weeks. One of her daughters was sold at an auction sale in the United States for $2,000. The highest priced cow sold for $220.00.

There have been a number of sales of Ayrshires in Scotland of late at exceptionally good prices.

W. F. STEPHEN.
Huntingdon, Que., Dec. 27th, 1916.

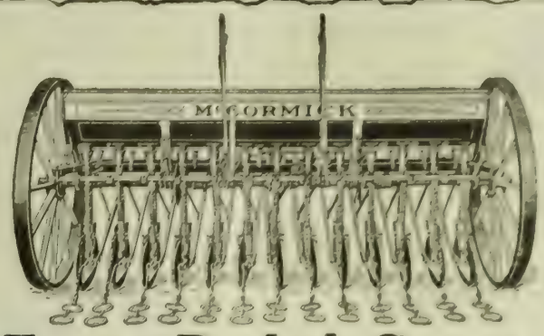
WORMS IN SHEEP

Sheepmen having flocks infested with stomach and tapeworms may free the animals of such pests by treatment before turning out to spring pasture. For this purpose a drench of copper sulphate has been found most satisfactory in the flocks at the Ohio experiment station.

Two fluid ounces of a solution made by dissolving an ounce of copper sulphate (blue vitrol) in two quarts of water is sufficient for a yearling, and a two-year-old sheep needs three fluid ounces. A long necked bottle or a rubber tube and funnel may be used to give the dose. Most effective results follow when the sheep are fasted for a day before and after treatment. Water should not be given for a few hours preceding and following the dose.

Digestive disturbances, poor appetites, loss of flesh and general weakness indicate the presence of worms. Lambs are most seriously affected, the experts say. Ridding the sheep of worms in the spring will result in fewer losses in the lamb crop.

Clover hay and silage provide a simple and cheap way of wintering cattle. If you are a little sceptical about corn growing, inquire into the merits of O. P. V. silage. You can grow O. P. V. to perfection.



Every Bushel Counts

WITH crop prices at top figures and likely to stay there, it is a very important matter to handle your seed sowing and crop growing so as to get every dollar of profit. Nowadays every bushel added to your harvest yield counts!

That is why so many careful farmers put the seed in the soil with **McCormick** drills. Why? They know that seed deposited at even depth means grain all up, growing and ripe at the same time, no half-ripe, half-green fields, no shriveled kernels in the grain.

McCormick drills have all the modern conveniences—braced angle steel frames; anti-friction, dirt and dust-proof disk bearings; accurate feeds; and any kind of furrow opener your land requires. Either plain or fertilizer types.

Your farm—no matter how "different" your soil or fields are—needs a McCormick drill. This is a good time to know more about them. Send for our drill catalogues and folders. They make profitable reading.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

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PULVERIZED LIMESTONE

CLAIRMONT BRAND

Pulverized Limestone is recommended by all Departments of Agriculture, Experimental Stations, County Demonstrators and Farm papers throughout United States and Canada.

A large proportion of the soil in this country becomes Acid, or Sour, and requires Limestone to Sweeten.

If you want big yields from your crops, order Pulverized Limestone.

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GENUINE DIAMONDS
CASH or CREDIT
Terms : 20% Down and $1--$2--$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day.
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

THE HORSE

LONGEVITY IN HARNESS GOT BY PROPER CARE

Good leather harness should last through a long term of years, if properly caeed for, excepting, of course, the little buckles and straps that will get broken and must be repaired. Harness that is never cleaned and oiled and must be exposed to the rains and snows while on the teams in necessary service, very soon begins to show the effects of service. The service in well-oiled harness is doubled and trebled by the timely application of these softening and preserving agents.

During the slack winter season there always come days very suitable for cleaning and oiling the harness. A rather warm room is the best for this work, preferably in the basement of the house or barn where a little oil, more or less, on the floor will not need to matter. The straps should first be unbuckled and everything taken off. This includes the quarter straps, lines, choke straps, belly bands —everything that buckles onto anything else and can be conveniently gotten loose. It is a good policy to hang all these straps of each set of harness to themselves so no mixup will occur in case six or eight sets are being washed and oiled at a time. This thorough disassembling of the parts insures an easier and more thorough job in the long run.

A tub of lukewarm water, preferably soft water, and a good stiff brush are the two main requirements in cleaning. Every strap should be gone over thoroughly and all the dirt removed. Then the leather is allowed to dry after the water has been all wiped off with a soft cloth or sponge. Some good harness oil is then generously applied and allowed to dry in pretty well, then another oiling is given, and the leather well flexed to insure its better penetration. This second oiling should do the job up about right. The parts may then be re-assembled and hung back in the harness room ready for service.

The collars and bridles should receive their cleansing and oiling along with the rest. Especially the collars should be gone over and cleansed thoroughly. The oiling of the harness helps to prevent, the gnawing of the leather by rats and mice, for these rodents do not seem to fancy the taste of well-oiled leather. They prefer the old salt-sweated article which has been weathered and uncared for. We often wonder if it is not the salt in the leather these animals are after rather than the leather itself. A cow will chew leather for this reason, if forced to go without salt for any length of time. The thorough cleansing in a tub of warm water removes this salt. The salty sweat is injurious to both the leather and the metal parts of the harness, if not removed at regular intervals. A thorough cleansing and oiling of the harness some two and three times a year pays a dividend in more ways than one.

W. H. L.

THE STALLION LAW

A recent issue of The Breeders' Gazette says:—"Since the stallion law went into effect in Kansas in 1910 a marked improvement has been made in the quality of horses produced. The annual report of Dr. C. W. McCampbell, Kansas Agricultural College, Manhattan, as secretary of the registry board, shows that in 1909 2,000 grades and scrubs were advertised as purebreds, while not a single animal standing for public service was fraudulently advertised in 1916. Mare owners now have a means of knowing the exact breeding of the stallions patronized. Hundreds of stallions with fake pedigrees were sold as purebreds before 1910. That it does not pay to raise scrub horses is pointed out by Dr. McCampbell in this terse statement: "One can buy scrub stallions for less money than he can raise them and it is not necessary to wait 5 years either."

"Percheron stallions are gaining in popularity in Kansas, as shown by the report. Of all the pure-bred stallions licensed for 1916 65 percent were Percherons. During the year 2,658 purebred draft stallions and 502 purebred light stallions were licensed, as compared with 1,892 purebred draft stallions and 707 purebred light stallions in 1910. This is an increase of 40 percent in the number of draft stallions and a decrease of 30 percent in the number of light stallions. In 1910 3,766 grades and scrubs and 2,599 purebreds were licensed to stand for public service, while in 1916 licenses were issued for 2,130 grades and scrubs. This means that 21.5 per cent more purebreds and 43 percent fewer grades and scrubs were licensed in 1916 than in 1910."

Is it not time that the Maritime Provinces get down to brass tacks and do something drastic for the elimination from public service of grade and scrub and hereditarily unsound pure bred sires. "The greatest good to the greatest number" should be our motto in this respect. A few stallion owners may be somewhat disgruntled, but the results for good will be far reaching.

DOES OATS SUPPLY WHAT CORN CANNOT

A recent announcement from the Ohio Experiment Station, Wooster, does not conform with the opinion so generally held that oats as a feed furnishes more mettle to horsekind than corn. It is a popular notion that horses fed oats have more "life," keep in nicer condition and better endure work, specially in summer, than those receiving a grain ration largely or wholly of corn.

In an experiment which ran for 48 weeks, Prof. B. E. Carmichael submitted the popular notion to scientific test, using as his subjects 3 teams of mature geldings. One horse in each team was fed oats and the other re-

(Continued on page 270)

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY

For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N, S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
Newton Lee, Owner "All Right" 5817.

Elmsdale. N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada.

What is Your Best Horse Worth to You?

Yet your best horse is just as liable to develop a Spavin, Ringbone, Splint, Curb or lameness as your poorest!

KENDALL'S SPAVIN CURE

has saved many thousands of dollars in horse flesh by entirely curing these ailments.

Ed. Elstone, Jr., Haliburton, Ont., writes:

"I have been a user of your Kendall's Spavin Cure for about 20 years, with good results. Could you supply me with your *Treatise on the Horse*?"

Don't take chances with your horses. Keep a bottle of Kendall's handy, $1—6 for $5. Our book "Treatise on the Horse" free at druggists' or

Dr. B. J. KENDALL CO., Enosburg Falls, Vt. 119

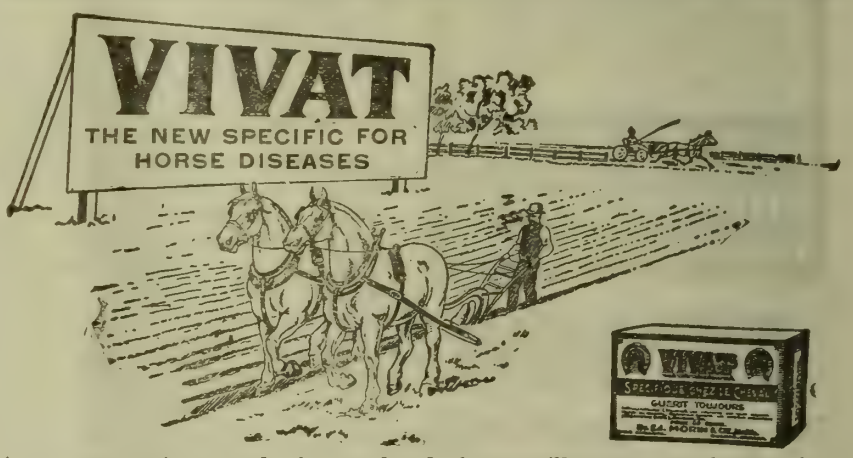
ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Will reduce **Inflamed, Strained, Swollen Tendons, Ligaments, Muscles or Bruises.** Stops the **lameness** and **pain** from a **Splint, Side Bone** or **Bone Spavin.** No blister, no hair gone. Horse can be used. $2 a bottle delivered. Describe your case for special instructions and **Book 2 K Free.**

ABSORBINE, JR., the antiseptic liniment for mankind. Reduces **Strained, Torn Ligaments, Enlarged Glands, Veins or Muscles, Heals Cuts, Sores, Ulcers. Allays pain.** Price $1.00 a bottle at dealers or delivered. Book "Evidence" free
W. F. YOUNG, P.D.F., 124 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

VIVAT

THE NEW SPECIFIC FOR HORSE DISEASES



An energetic remedy in powdered form, will cure your horse of COUGHS, HEAVES, COLICS, WORMS.
"VIVAT" also strengthens and gives endurance to DRAUGHT-HORSES as well as RACERS. Many prominent Veterinary Surgeons have tried it with success in critical cases—One 50c box is sufficient for six days' treatment.

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THE DOMINANT ENGINE

SEND for our free trial offer, and special introductory price and catalog.

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THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body
—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and
all Stiff Joints

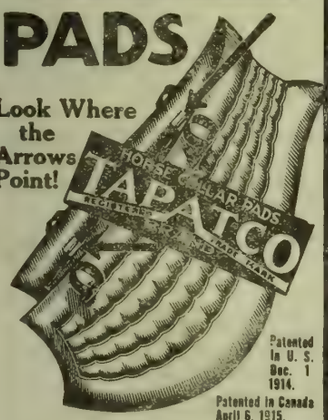
REMOVES THE SORENESS--STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

GREATLY IMPROVED HORSE COLLAR PADS

Look Where the Arrows Point!



Patented In U. S. Dec. 1 1914.
Patented In Canada April 6, 1915.

Our new staple and felt reinforcing device gives the hooks a larger, firmer hold on the pad and keeps them from coming off easily. It adds to life of the pad and satisfaction of the user. This form of attachment is

Found Only On Pads Made By Us

Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it request him to write us direct.

The American Pad & Textile Co.

Main Office and Plant, Greenfield, Ohio, U.S.A. **Chatham, Ont.**

BUTTER PARCHMENT
Printed or Plain, at the Maritime Farmer Office

POULTRY.

THE TRUTH

Editor The Maritime Farmer:—

Under the caption "Maritime Matters" and over the nom de plume "Maritime", a writer in a recent issue of Canada Poultry Review quotes a paragraph in your report of the Charlottetown exhibition in which you referred to the grants to said exhibition as follows:—"To accomplish this result a big sum of money was needed. The Dominion Department of Agriculture gave a grant of $2,500. The Government of Prince Edward Island gave a grant of $5,000, and the City of Charlottetown, as usual, set aside a grant of $500. This tidy aggregate of $8,000 enabled the management to offer a specially tempting prize-list. The response on the part of the Prince Edward Island agriculiurists and live stock breeders was most creditable in all departments."

Maritime goes on to say:—"Notwithstanding this 'tidy aggregate of $8,000,' the management of the exhibition could not or would not provide a judge for the poultry exhibit. The judging was done by an amateur poultry man from Nova Scotia who no doubt placed the awards to the best of his ability, but who has not had the experience in either breeding or judging to qualify for a position of this kind. What is the advantage of sending birds, or anything else to an exhibition if we are not to have the merits or demerits passed on by a competent judge. This style of judging does more harm than good, as it gives some exhibitors a chance to advertise birds as being prize winners at such shows, which could not possibly win under a competent judge.

"If the poultrymen would insist on poultry being given a square deal and getting a fair proportion of the grants, there would be no reason why a good judge could not be provided."

The foregoing tale of woe bears the earmarks of a disgruntled exhibitor. Evidently "Maritime's" birds did not win first prize at Charlottetown. To think that some other exhibitor could possibly show higher class birds than his would be absurd.

The writer of this letter attended the Charlottetown Exhibition on several occasions and one of the most lively discussions which I heard there a few years ago, was between two poultry exhibitors. It seems one of the exhibitors in question had succeeded in winning first prize on a White Leghorn hen several years in succession, until the poor hen got grey in the service. In the meantime some other young exhibitors were having an eye on the coveted prize and breeding their Leghorns accordingly. Well, the poor old hen was finally trimmed. The old hen could not stand the pressure and went down to defeat, and immediately the fat was in the fire and the beans were spiled. The owner of the ancient hen was wrathy and denounced the judge and the breeder who had the timerity to show a better bird than his, and by way of "diversion and to emphasize his feelings" he was ready and willing to show what he could do to his successful competitor, if given a chance. His main argument was a repitition of the remark "but I always used to win that prize."

There seems to be just as much common sense locked up in the tale of woe set forth by "Maritime." He was trimmed and fairly so, at the hands of one of the best poultry judges and breeders in the Maritime Provinces.

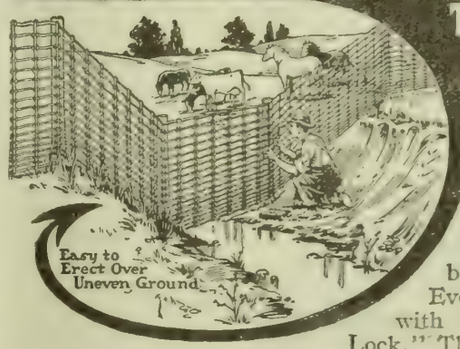
Tom Latham, the judge in question is no amateur. It is true he is not old and grey whiskered in the business, neither are his ideas. He is one

(Continued on page 270)

Every milk can will be sweet and sanitary if you always use

Old Dutch

PEERLESS PERFECTION
THE FENCE THAT STAYS "PUT"



PEERLESS Perfection is one of the easiest fences to erect, because it stays "put." It can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences.

Peerless Farm Fence

is made of the best Open Hearth steel fence wire. All the impurities of the steel are burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Agents nearly everywhere. Agents wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

D & F High-Grade Seeds

With bright prospects ahead for good prices on Vegetables, and all Farm Products, our farmers should feel encouraged to plant improved varieties of seeds, so as to increase their crops.

DUPUY & FERGUSON'S VEGETABLE SEEDS

Long known for their superior quality and productiveness, have greatly increased in demand and popularity.

Dupuy and Ferguson's Grass, Clover and Farm Seeds are of tested germination and superior qualities. Write for prices.

Dupuy and Ferguson's Descriptive Catalog gives valuable information about all Seeds, for the Farm and Garden.

Mailed free on request

DUPUY & FERGUSON MONTREAL

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

Fall, like peace, O Gossamer Snow!
While searching winds are roaming abroad;
Fall, in your wealth, on the world below,
Like a bessed balm from God!
Fall, like kisses, upon the earth,
That is cold and cheerless and full of woe,
And fill its heart with a sense of mirth,
Silent and loving Snow.
—Isidore G. Ascher.

SUGGESTED PROGRAMS FOR WOMEN'S CLUBS.

February.—Gentlemen's Night.

"I charge thee to invite them;
let in the tide of knaves once more."
—Shakespeare.

Subject: That Boy of Ours.
Entertainment.

March.—Literature.

"Costly thy habit as thy purse can buy
But not expressed in fancy; rich, not gaudy;
For the apparel oft proclaims the man."
—Shakespeare.

Subject: A Century of Dress.
1817—1917

April.—Civic Housecleaning

"Public spirit is almost the first of civic virtues."
—Roger Walcott.

Subject: Home and Street Sanitation.

May.—Social Conditions.

"Grace was in all her steps,
Heaven in her eye,
In every gesture dignity and love."
—Milton.

Subject: What Can A Woman Do?

June.—Annual Business Meeting.

"To get the most out of the coming year, we must put the most into it."
Report of Year's Work.
Election of Officers.

July.—Our Annual Picnic.

"Make glad our threshold with your tread, sweet friends, once more."

HOW TO SAVE IN WAR TIME.

The Influence of Women.—As chiefs of the domestic "spending departments" women can exert an all-important influence. If they will once make up their minds to the uncomfortable necessity for spending less on our homes and our families, and our amusements and pleasures, the revolution in our national habits that is needed for the war will soon be carried out. They have done a great work for the nation in recruiting. They can do a still greater work for their country in saving. It is they who have to tell us how to save, to show us how to do it, and ultimately to carry out most of the saving that can be achieved in our homes, by cutting off the things that we can best, in their opinion, do without. With their sympathy and help, our great problem of financing the war is comparatively easy. Without them it can only be solved by methods which will lessen our staying power and leave us at the end of the war much poorer than we need have been.

Household Expenses.—No one should build a house for himself at this time. Moving (unless to a cheaper house) should be avoided; those who are obliged to move, or who are setting up house for the first time, should avoid neighborhoods where rents are high.

No furniture or other household requirements should be bought beyond what is absolutely necessary. The expenditure on pictures, pianos, ornaments, etc., should be severely curtailed.

The expenditure on flower gardens should be reduced, and as much of the garden as possible should be used for growing vegetables. Less should be spent on cut flowers.

The expenditure on coal, gas and electricity might be greatly reduced. Much less might be spent on fuel and light if we went to bed earlier.

Clothing.—There is, perhaps, more scope for the saving of money on dress by women than by men, and especially by women of the richer classes. Changes of fashion (one of the greatest causes of extravagant expenditure on dress) should be ignored, if they cannot be suppressed. Women should take a pride in making their dresses last as long as possible. All not strictly necessary extras, such as veils, white gloves, furs, silk garments, should not be bought. Women might make much of their own and their children's clothes and underclothing, and cut down old garments for their children as was the general custom of a generation ago. Time formerly spent on fancy needlework would be more profitably spent in this way.

Gifts.—The giving of presents on all sorts of trivial occasions should cease. Where presents are given—e. g., on the occasion of a marriage—they should not be costly and should be articles of real service.

Many persons would find it possible to save by spending less on their hobbies.

Eat Less Meat.—The price of milk would fall and our milk supply would no longer be threatened, if everyone were to **eat less meat** than they have been accustomed to, especially during the summer and autumn months. Most people would not suffer in the heast in health or strength by so doing, especially if they were to include in their diet a fair proportion of food which can supply the same kind of nourishment as meat.

Substitutes for Meat.—Cheese is one of the best and most useful substitutes for meat. Weight for weight, it contains more of this particular kind of nourishment than meat itself.

Milk and Skim Milk also contain this form of nourishment in a high degree.

Peas, Beans and Lentils also contain these properties, and after thorough cooking should be freely used where the amount of meat in the diet is reduced.

Economize Bread.—It is on bread that most of us rely for our main nourishment. Bread is the article which is most commonly wasted of all our food materials, and it is the one which the circumstances of this war require to be most carefully husbanded.

There are two ways in which bread can be economised without any real stint:

(1) By using every crust and crumb of it for food, and throwing none of it away.

(2) By only using bread which is at least twenty-four hours old.

Fresh bread is not so easily digested as bread which is a day old. The latter is more satisfying and less of it needs to be eaten. Our patriotic ancestors, in the wars of one hundred years ago, took advantage of this well-known fact, and were able to make a great saving in their store of wheat by giving up the use of fresh bread and eating only that which was at least twenty-four hours old. It was estimated that about one-sixth part of the supply was saved by this simple means. If this were done at the present day it might enable a ten-months' supply of wheat to last one year. This would be an enormous gain in our powers of resistance to the enemy.

Extracts from Leaflet No. 4, The National Organizing Committee for War Savings.

Wilson's
INVALIDS' PORT
(a la Quina du Pérou)

Recommended by hundreds of Physicians

Absolutely no Alcohol is added. 12

BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS

BEVERAGES

COFFEE

"And while the bubbling and loud hissing urn
Throws up a steamy column, and the cups
That cheer but not inebriate, wait on each,
So let us welcome peaceful evening in."

Coffee contains some tannin, also contains a stimulating substance called caceine. Coffee is more stimulating to the nervous system than tea, but it should be used in moderation. Taken in moderation, without cream and sugar, coffee is a mild stimulant to gastric digestion, hence after-dinner coffee. Coffee also possesses a distinctly laxative effect.

The ground coffee is often adulterated with chicory, sawdust, and other substances. It is better to buy the beans and have them ground.

Test for adulteration in coffee,—Pour one cup of cold water on one tablespoon of coffee, if coffee floats and colors water slowly it is pure, if coffee sinks and stains water quickly, chicory or some other substance is present.

Coffee Receipe.

½ cup coffee, ½ cup cold water, several egg shells, 3 cups boiling water.

Mix coffee, half of cold water and egg shells together, add boiling water and boil five minutes. Pour out one cup of coffee to remove grounds from spout of coffee pot and then pour it back, add remaining cold water to settle coffee. Do not allow coffee to stand on grounds longer than ten minutes. Coffee may be reheated and used if it is drained from the grounds.

The vessel that serves as a coffee pot must be kept very clean. In cleaning a coffee pot only fresh water and a cloth kept specially for the purpose should be used. Never set the coffee pot aside with coffee in it. Occasionally boil out coffee pot with a solution of sal-soda.

TEA

"Tea! thou soft, thou sober sage; and venerable liquid; Thou female tongue-running, smile-smoothing, heart-opening, wink-tippling cordial."

A cup of ten infusion has little or no nutritive value, but it incites the brain to greater activity. The stimulating effect of tea on the nervous system is due to the essential oil and theine; the tannin produces astringency, this tannin is a bitter substance and is used commercially to tan leather. If tea is used in large quantities it tends to harden the lining of the stomach. Tea is for those who have passed the boundary line of youth, stimulants are not needed by the young and are positively harmful to them. However, properly prepared and used both tea and coffee on account of the sense of comfort and the mildly exhilarating influence which they impart, may be considered beneficial to the race.

The essential oil and theine of tea are the desirable elements; the tannin which by hardening albumen interferes with the process of digestion is to be avoided. The one is avoided and the other secured by the manner in which tea is made. In order to make a good cup of tea we must first have good tea, small leaves are better, and tea should be kept closely covered in jar or tin.

Use earthen-ware tea pot, never tin. The tea pot must be clean and dry. Never leave liquid and leaves in tea pot between meals and never drink liquid that has stood more than five or six minutes on leaves.

Freshly boiling water must be used so that the oxygen is not expelled.

Tea Recipe

1 teaspoon tea to one cup of water.

Pour boiling water over tea and stand where it will not boil, from three to five minutes.

Color does not show strength of

Flattering to the Original

But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.

This is a facsimile of the package bearing portrait and signature of A. W. Chase, M.D.

BUILD CONCRETE SILOS

With the LONDON ADJUSTABLE SILO CURBS. Over 12,000 concrete silos have been built in Ontario alone. Send for catalog No. 10.

LONDON CONCRETE MACHINERY CO.,
Dept. E, London, Ontario.
World's Largest Manufacturers of Concrete Machinery

THE WINTER TERM
of the
Fredericton Business College
will open on
Monday, January 8th, 1917

Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.
Address,

W. J. OSBORNE, Principal
Fredericton, N. B.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

ACUTE COLDS AND THROAT TROUBLE

Soon Cured by

VENO'S LIGHTNING COUGH CURE.

Veno's is no ordinary cough mixture, but an absolute specific for every kind of cough, cold, or throat trouble. It is just wonderful how it cures those acute colds and throat troubles that are so prevalent at this season. A few doses of Veno's and you are well again, because Veno's is a real lung and chest healer, and enables you to throw off the trouble at once. There is no dope in it, so you can take it freely, and give it to children, too. Price 30 cents and 60 cents, from druggists and stores throughout Canada.

Advertise in the Maritime Farmer

tea infusion, the finest tea gives a light color even after long steeping; it is tannin that makes tea dark. When strength is desired, secure it by adding more tea, not by longer steeping.

If one is fond of the genuine flavor of tea, nothing will be added to the infusion. The addition of cream and sugar is an English custom; that of slices of lemon a Russian usage, while candied cherries in tea is an American innovation.

COCOA

"Food of the gods."

In dealing with tea and coffee we are considering articles that in themselves have absolutely no food value, articles that are prized simply on account of their stimulating qualities but in all preparations made from cocoa beans we have a food of high nutritive value. Cocoa contains starch and some fat. What corresponds to theine is called theobromine, meaning "food of the gods." On account of the high nutritive value of a cup of cocoa or chocolate it makes a substantial addition to a light meal, as at breakfast or luncheon.

Baron Von Liebig, one of the best known writers on dietetics, says: "It is a perfect food, as wholesome as delicious, a beneficent restorer of exhausted power; but its quality must be good and it must be carefully prepared. It is highly nourishing and easily digested, and is fitted to repair wasted strength, preserve health and prolong life. It agrees with convalescents; with mothers who nurse their children, with those whose occupations oblige them to undergo severe mental strain, with public speaker and with all those who give to work a portion of time needed for sleep. It soothes both stomach and brain, and for this reason, as well as for others, it is the best friend of those engaged in literary pursutts."

Cocoa Recipe

4 tablespoons cocoa. 3 tablespoons sugar, pinch of salt, 2 cups water, 2 cups milk.

Mix cocoa, sugar and salt. add water and boil ten minutes, add scalded milk. Beat scum up with egg beater do not skim it off as it is the most nourishing part of the milk.

The cocoa and sugar are mixed to prevent lumping, and the mixture is boiled to cook the starch. In order to bring out the full, fine flavor and to secure the most complete digestibility, the preparation must be subjected to the boiling point for a few minutes.

Some persons complain of being unable to digest chocolate in any form, and others say it is not nourishing. In these cases the chocolate they use is of bad quality or badly made; for good and well made cocoa or chocolate must suit every stomach which retains the sightest digestive power.

THE CHILD, THE PARENT AND THE SCHOOL

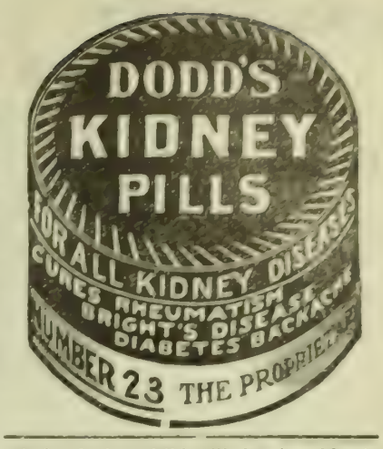
The up-to-date elementary school begins with the kindergarten. Games, songs, and children's sports make a joyous entryway into the grades. Flowers, fruits, leaves, grasses, butterflies, moths, toads, frogs, bats and birds, may be brought to the classroom and examined; or the children may go on expeditions to explore Nature's wonderland, making excursions to any spot of beauty near enough at hand. Farm animals may be visited on the nearby farms. Then on the return to the school the things seen may be talked or sung about.

However, the kindergarten only reaches the children in city schools, and only a very small percentage of our children have an opportunity to enter one. On the other hand practically all school children enter the grades. The time has passed when reading, writing and arithmetic should constitute a satisfactory education. Like the kindergarten, the elementary school must touch life; like the kindergarten, it must provide for child needs. Here and there schools are turning from the old methods of teaching spelling, multiplication, and syntax to the new methods of teaching children—yes, and teaching them those things which they need, irrespective of name.

The best of all is that the old time-honored studies may become full of interest if they are linked to life. For example, compare the old method of teaching geography with the new way. Once the child began with a memorized list of the names of capes, bays, peninsulas, continents, seas, and the like. To-day he may commence with the town in which he lives; or even the very school building itself, and its immediate surroundings. Maps are made of these, and the relative positions of nearby objects noted. Surrounding districts, with their rivers, hills, creeks, lakes, etc., are gradually included, broadening the mind of the child till he is able to grasp the significance of the larger formations of the earth's surface.

The old methods of teaching arithmetic led surely to a feeling well described in the old lines:

"Multiplication is vexation;



Weak From Birth

Harriston (Ont.) Child Saved by Dr. Cassell's Tablets.

MR. CORBY, HARRISTON P.O., ONT., writes:—"Just a few lines in praise of Dr. Cassell's Tablets. Our little girl was weak from birth, and though we tried doctor's medicine and other things she got no better. She just lay in her cot and cried, and neighbours all said we could not save her. Then I read about Dr. Cassell's Tablets. I said to my wife, 'while there's life there's hope'; we will try these Tablets. We did, and from the first box we could see a change in the child. She seemed to rest more comfortably, and slept well at night. We kept on giving Dr. Cassell's Tablets till she was 18 months old, and now at three years I don't think there can be a healthier child in the whole Dominion.

Little Miss Corby.

The doctors said she had stomach trouble, and that her chances were small, yet Dr. Cassell's Tablets cured her. They have been worth their weight in gold to us, for we were just giving up hope of saving our little daughter. I don't think there is any other medicine for children like Dr. Cassell's Tablets. I may say my wife has taken them for nerves, and they have built her up splendidly. Publish this letter if you like: it may help others as the Tablets helped us."

Bright, healthy, happy children, full of life and activity—every mother wants her babies to be like that. Are yours? If they are not, if they are weakly or fretful we say it in all sincerity—the surest way you will ever find to build up strength and vitality in their little frames is a course of Dr. Cassell's Tablets.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
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Specially valuable for nursing mothers and during the Critical Periods of life

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

UNSIGHTLY PIMPLES

COVERED HIS FACE.

B. B. B. Cured Him.

All diseases and blemishes of the skin are caused by the blood being in an impure condition

The best blood cleansing medicine on the market to-day is Burdock Blood Bitters, a medicine that has been in use for over 40 years, so you do not experiment when you buy it.

Mr. Lennox D. Cooke, Indian Path, N.S., writes: "I am writing you a few lines to tell you what Burdock Blood Bitters has done for me. My face was covered with pimples. I tried different kinds of medicine, and all seemed to fail. I was one day to a friend's house, and there they advised me to use B. B. B. so I purchased two bottles, and before I had them taken I found I was getting better. I got two more, and when they were finished I was completely cured. I find it is a great blood purifier, and I recommend it to all."

B. B. B. is manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:

Mrs. M. Summers, Box 309 Windsor, Ont.

Division is as bad;
The rule of three it puzzles me,
And fractions drive me mad."

In many schools, arithmetic is first taught quite naturally. Some teachers organize games in which some children play while others keep score. Under the stress of the most gripping of impulses—the desire to win—these scorekeepers learn addition and subtraction. Later on they take up practical problems such as measuring the room, calculating cost and profits of farming operations; household arrangements, etc., etc. One teacher made a full week's work for her whole school in arithmetic, grammar, spelling and composition, as well as drawing, out of the question as to how a farmhouse, and particularly a farm kitchen, should be arranged and furnished. The children were told to describe the utensils they saw used at home, and to learn the relative cost and efficiency of such utensils. Other farm buildings and farming operations were taken up in turn. The raising of various crops and the handling of live stock of all kinds may be made to give endless variety to the studies in any of our rural schools.

English is one of the most important of our subjects. We buy with it, sell with it, adore with it and protest with it. The best schools have, therefore, given English—real English—a first place in school work. Pictures may be distributed, bearing on the season or event near at hand, such as Christmas, Thanksgiving, Hallow'een, or anything of importance, and the children may be asked for a story or poem on the picture. In one school where this was done just before Hallow'een, one of the boys wrote, referring to his picture, which was of a witch on a broomstick, with a cat at her side, riding toward the moon:—

"The witch's cat was as black as her hat,
As black as her hat was he;
He had yellow eyes which looked very wise,
"And he sailed high over the trees."

In this same room a girl 9½ years of age wrote a poem entitled "The Moonlight People." Here is one stanza:—

"When the stars are twinkling,
And the ground with snow is white,
And we are just awaking
To see the morning light.
Little moonlight people
Are dancing here and there;
O'er a snow-white carpet,
Dancing everywhere."

In some schools the children write books. They choose a title, and each week the child writes something in the book, illustrating the text with drawings, decorating the margins with water colors, painting a tasteful cover, and at last, as the product of a year's work in English, taking home a book written, hand painted, hand illumined, covered and bound by the author. In other schools the children are encouraged to read at home and tell in class Aesop's Fables, Bible stories, Greek legends, Norse legends, and any other stories that the teacher thinks appropriate. Sometimes a teacher reads a chapter aloud to little ones not far enough advanced to read much at home. In this way the "Hoozier Schoolboy" was read to a whole school in Saskatchewan. Every week a chapter was read; and during the week the children wrote exercises based on what they heard. They became intensely interested, and improved wonderfully in composition.

Old methods of teaching physiology, which meant a memorizing of the names of muscles and bones, symptoms of diseases, and so on, has been replaced in many schools by a physiology which aims to teach that the body is worth caring for and developing into something to be proud of. Beginning with Nature study and elementary science, the hygiene course emphasizes first the care of the body; then public health, and private and public sanitation.

Domestic science can be taught successfully here where nearly all the children bring cold lunches. Let trustees supply the school with a tiny kitchen. No great cost is necessary—just a small room separated from the main building, and containing a cheap cooking stove as its one essential. Here hot lunches may be prepared each noon hour by

This Washer Must Pay For Itself

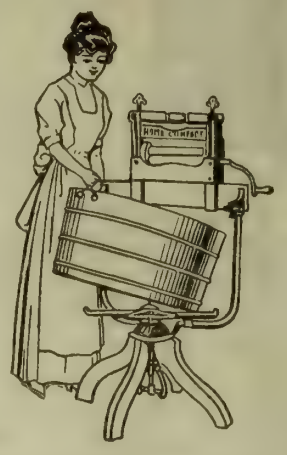
A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that, I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines——the "1900 Gravity" Washer.

And I said to myself lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.



Our "GRAVITY" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six Minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for the people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50 cents a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

State whether you prefer a washer to operate by Hand, Engine Power, Water or Electric Motor. Our "1900" line is very complete and cannot be fully described in a single booklet.

Address me personally, S C MORRIS, Mgr.,
Nineteen Hundred Washer Co., 357 Yonge St., Toronto, Ont.,

From Up Among The Yukon Snows

COMES ADVICE TO SUFFERERS TO USE DODD'S KIDNEY PILLS

Glacier Creek Lady Says They Have Been Her Stand-by for Sixteen Years and She Has Never Known Them to Fail.

Glacier Creek, via Dawson, Yukon, Can. (Special.)—"North of fifty-three where doctors are long distances apart and those remedies that are a very present help in time of need are the reliance of the settlers, Dodd's Kidney Pills have established an enviable reputation. Hear what Mrs. A. Armstrong, a well-known resident of this place, has to say of them:

"Dodd's Kidney Pills have been my stand-by for sixteen years," Mrs. Armstrong states. "Both myself and my family have the greatest faith in their medicinal qualities. When any of my friends complain of even a headache I treat them with Dodd's Kidney Pills and they never fail to do good.

"It always gives me pleasure to say a good word for Dodd's Kidney Pills."

Dodd's Kidney Pills cure all kidney ills from backache to rheumatism, Bright's disease and heart disease. These troubles come from sick kidneys. That's why Dodd's Kidney Pills cure them.

LADY'S SHIRT WAIST.

By Anabel Worthington.

Even in competition with the afternoon blouse the simple, tailored blouse always shines out as an indispensable garment. It is a perfect boon to the business woman and to the housekeeper who discards her morning work dress for the waist and skirt costume, for walking, shopping or in which to spend the afternoon at home.

The smart blouse in the picture is ideal for combining with one of the new semi-tailored skirts. It is of full, comfortable cut, with the back extending over the shoulders at front to give the popular shoulder yoke effect. The waist fronts have their fulness gathered at this point, giving a graceful line to the garment. The broad collar is as collars of the times are—deep, and straight across the back, a correct finish for the V neck at front. The well liked front closing is with pearl buttons. Sleeves set in without fulness may be in either three-quarter or full length; the flare cuff, button trimmed, gives snappy style when the long sleeve is chosen.

The shops are just full of new spring fabrics for blouses and the wise woman will buy a quantity for her sewing room before the best are carried away by some one who is after the first pick. Linens are good; voile, satin and like fabrics are other favorites.

The waist pattern No. 8,143 cuts in sizes 36-42 bust

To make in size 36 requires 2⅞ yards of 36 inch material.

To obtain the pattern send to the office of this publication.

PEDLAR'S
"GEORGE"
SHINGLES

ARE you really saving money by neglecting to re-shingle that barn roof? You know that each additional patch lessens the value of your building. You know each widening leak means rotting, loosening shingles and early decay. You know that only by Pedlarizing your roof can you get enduring freedom from repair and rot. Pedlar's "George" Shingles bring you the durability and wearing qualities of steel at a price, when laid, about that of a good wooden shingle roof. A Pedlarized roof will last for generations, protecting you at all times from the danger of lightning and fire. The "Right Roof" Booklet M F telling you all about steel shingles and how to lay them, is free. Write to-day.

THE PEDLAR PEOPLE Limited
(Established 1861)
26 Nazareth St., Montreal
Executive Offices and Factories:
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Branches: Ottawa, Toronto, London, Winnipeg, Vancouver

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

the teacher and pupils. The materials may be brought from home, and much pleasure and profit be derived from the cooking, serving and eating of hot lunches instead of cold. Children will be much healthier and happier. One teacher carried this plan out very successfully on the common upright heater that is usually found in all our rural schools. But this involved much inconvenience, waste of fuel, and over-heating of the classroom during sultry summer weather.

The new education is broader than the old because it adopts any study which seems likely to meet the needs or wants of any child. The storehouse of the mind is to-day unlocked with educational keys of which educators in past generations scarcely dreamed.

It is a long step from the school of "reading and 'riting and 'rithmetic taught to the tune of the hickory stick," to the school which aims at the education of the whole child; where the school authorities write mental and physical, hand and head, vocation and recreation, into one complete system.

This result is accomplished, first, by engaging experts to teach special subjects; second, by abolishing grade promotions and permitting each child to advance in each subject when he is ready to do so; third, by keeping the school open morning, afternoon and evening during practically the entire year; fourth, by making the work so attractive that children will prefer the school to any other place.

In many parts of the west, grown-ups will be glad to attend classes in the evenings. It is surprising how many young men and women there are in our rural districts who threw away their chances of an education when they were boys and girls; and who now see the need of at least a little learning. These young people would feel ashamed to be seen in classes with little children; yet they would gladly join evening classes composed of young folks of their own age.

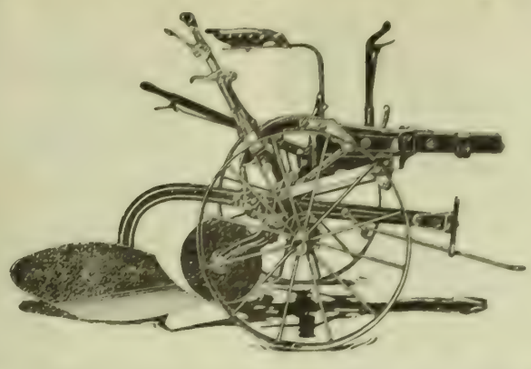
A "Parent's Association" could and should be formed in connection with every rural school. This can be best accomplished by the teacher herself. She should place herself in close touch with her school community and its interests by acquainting herself with the parents of her pupils and bringing them to the school. The first meeting may be announced by placing attractive posters in the rural store, or at corners and cross-roads, and also by written or verbal invitations to individuals.

A practical plan for a first meeting is to include a short but attractive programme by the children; a talk on some phase of agriculture by someone from some agricultural college or society, or by some respected farmer; and then have a short time for social intercourse and light refreshment. While everyone is in good spirits, the teacher speaks of the value of having a "parent's day" at least once a month, and tells of good results that invariably follow such a course. Then, while the interest is at its height, a president, vice-president, and secretary are decided upon by those present; a general plan of the work of such an organization is presented by the teacher, who also suggests that an executive committee be appointed for the planning and arranging of meetings and programmes.

Some question that will be profitable for discussion by parents, are:—

(1) Keeping the boy on the farm;
(2) Social life for country girls;
(3) The physical condition of our children;
(4) Understanding our children;
(5) The consolation of schools;
(6) How to improve the school library;
(7) The home library for rural homes;

Good Plowing Done Here



Take a simple type of two-wheeled sulky plow like the Oliver 26, equip it with a suitable bottom, and put it into the hands of an Eastern Canadian plowman. There is an unfailing recipe for good plowing. The Oliver 26 sulky handles like a two-wheeled cart. It has a pole shift that changes instantly the landing of the beam, making it as easy as can be for the operator to straighten crooked furrows, to turn short corners or to plow side hills. The land wheel has a range of lift that insures good work on rough ground, around dead furrows, and in finishing out a land. No plow made works better on rough, uneven land or can be backed more easily. It has a horse lift that eases the work of the plowman without tiring the horses. Taking it all together, there is no handier plow than this sturdily built Oliver 26.

Other Oliver plows from engine and riding gangs down to walking plows, complete a line in which you can find any particular plow you may happen to need—a plow that will help your reputation as a good plowman and good farmer—at a price you can afford to pay. May we send you our folders telling all about Oliver plows for Eastern Canada? Write to the nearest branch house.

INTERNATIONAL HARVESTER COMPANY OF CANADA, Limited

Branch Houses

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask. Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

NOTICE

TO

Page Fence Company Customers

We think it is only fair to our friends who have stood by us when they could get plenty of cheaper grade fence almost anywhere, that we advise them of the situation.

Deliveries of fence this year will undoubtedly be delayed on account of scarcity of material. While we are doing our utmost to secure such a stock in hand that we can fill all orders from at least our old customers, we cannot, at this writing, guarantee promptness in all cases, and hence we suggest that you place your fence requirements with us as far in advance of the actual time of need as possible.

Our new catalogue, and also new cash price list, showing prices direct to user, ready for mailing on request.

THE PAGE WIRE FENCE COMPANY, Ltd.

(8) Play for country children;
(9) School gardens;
(10) Home gardens for children;
(11) Our school lunches;
(12) Beautifying of school grounds.

Hosts of topics will present themselves to a live committee once interest is aroused to the value of the school itself.—Brenda E. Dow.

DOES OATS SUPPLY WHAT CORN CANNOT

(Continued from page 266)

ceived an equal weight of ear corn. Mixed clover and timothy hay was the roughage. Between the corn-fed and oats-fed geldings no difference in spirit and endurance could be observed. Quite as significant was the fact that there was no difference in changes in weight.

The difference in the cost of feeding was so material as to seem a vital consideration to the cornbelt farmer who heretofore has "believed in oats." With corn at 80 cents the bushel, oats at 60 cents and hay at $10 to ton, it cost $85.65 to feed a corn-fed horse for 48 weeks, and $122.19 to feed his oats-fed teammate. Considering the relative prices of the two grains over a long period of years, the Ohio statesmen say that corn may be substituted for oats for work horses at a material saving. They recommend that corn be given a large place in the horse's ration whenever market conditions warrant its use.

Doubtless there will at this time be some sticklers for oats who will have something interesting to say about the application of the advice to conditions in 1917.—Breeders' Gazette.

THE TRUTH

(Continued from page 267)

of our bright, intelligent, young men who is making good. He has been a successful exhibitor and breeder of a great many of the standard varieties of poultry—mark the work breeder. He breeds his winners. He has satisfactorily judged poultry at shows of as great or greater merit than last fall's show at Charlottetown. Tom Latham has been breeding and exhibiting for over twelve years and in that time he has learned a lot about the fancy points of poultry, and when he judges birds he judges them as he finds them, not on the possibility of what they may be several months hence.

If the reader will take the trouble to compare the prize winnings at Charlottetown and Moncton he will find that the placings, and that in the latter case, under one of Canada's foremost judges, were identically the same, with the exception of the White Leghorn Pullet section, where the second prize Charlottetown pullet was placed first. I have it on good authority that this pullet was imported, sure to win, but was not mature enough nor in shape to win at Charlottetown and her owner was informed by the judge to fit her up a little and that her chances of winning first place would be good at the Maritime Poultry Show. Pretty good judgment for an "amateur" Eh! What!"

There is a class of exhibitors who can never see beyond their own flocks and the Maritime Provinces is not immune form them. Tom Latham can always give good reasons for his placings and when squealers like Maritime, raise and show as many birds as Tom Latham has, they will learn to take their just rewards, be they to their liking or not, in good grace. That Tom Latham's placings at Charlottetown were upheld at Moncton by the other judge, speaks well for his judgment.

As I know Tom Latham, he cannot be bought or coaxed to do crooked judging. He is open and above board and no trickster need try it on.

Tom Latham is also a breeder of Jersey cattle and Standard Bred horses. In the latter class he has been successful in wnning the female championship diploma on more than one occasion at Halifax, Charlottetown and Amherst, with his Harriet King. Hs judgment is sound and stable and cannot be influenced one bit by professional kickers, and is entitled to a seat in the assemblage of professional poultry judges.

Thanking you for my intrusion on your valuable space to say a word for one of our progressive Maritime boys,

I remain,

FAIR PLAY.

TO TEST YOUR OWN SEED

In the Seed Laboratory grain is tested to determine the percentage of vital seeds by placing one hundred kernels between blotters, keeping them at a suitable temperature and supplied with the proper amount of moisture in special germinating chambers. The results of such a test show what proportion of the seeds are vital, but a more accurate idea of the value of the grain for seed could be gained from a soil test. Such tests are not practicable in a laboratory where thousands of samples are under test at one time.

Any one can test seed for himself by putting one hundred seeds taken "just as they come" from the grain he wishes to test, in soil in a flower pot, box or other convenient receptacle, and keeping it moistened, but not wet, in some place where it will be not too warm in the day time, and where it will be cooler, but will not freeze, at night; the alternation of temperature favours germination. By noticing the number of plants produced, whether they come up quickly and are strong or weak, one can determine the suitability of the grain for seedling purposes more accurately than from the results of a test which he does not use. If seed that is known to be of strong vitality can be planted under exactly the same conditions as the seed whose vitality is being determined, the test will be more valuable.

Cleaning grain over a good fanning mill to remove from one-third to one-half of the bulk including all the light, shrunken and immature seeds, will greatly improve its quality as seed. Seed Branch, Ottawa.

Baby's Own Soap

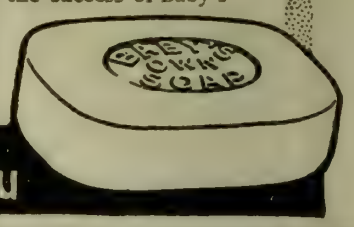
The creamy lather of Baby's Own Soap leaves the skin cleansed, softened and slightly and deliciously fragrant.

Use Baby's Own Soap with Warm water and rinse well,—and the most sensitive skin will never show irritations or become chapped.

Imitators refuse to use the expensive natural flower extracts and pure vegetable oils which are the basis of the success of Baby's Own Soap, THE family soap of Canada.

Sold almost everywhere.

ALBERT SOAPS, LIMITED, MONTREAL, Mfrs.



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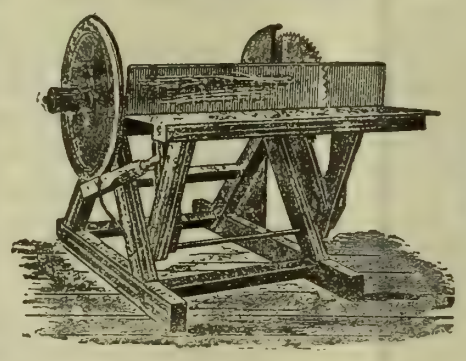
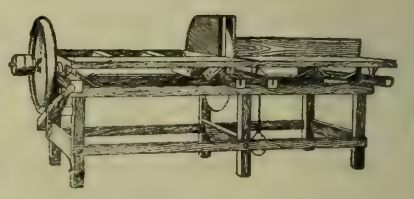
Sussex Wood Cutters Cut Expenses

Consult Our Quality Line Before Buying



Short Swing Wood Cutter

Wood Cutter Saws guaranteed at the right price. All sizes. Prompt delivery.



Flat Roller Table.

CONVENIENCE ECONOMY DURABILITY

are the three money-making qualities embodied in our Wood Cutting Machines. No frail parts to give out in a season's use. Built to last a life time. Frame is made of well seasoned birch, bolted and mortised; table of heavy steel plating in one piece.

Swing Table Machines built on skids, bearings supplied with compression greese cups. Especially adapted for use with gasoline engines. Made in four styles—Long Swing, Long Swing Improved, Short Swing, Flat Table.

Ask for our Catalogue and Prices, it will pay you.

Remember we also manufacture Trenholm Gear Hay Presses, Grain Grinders, Root Pulpers,.Feed Boiners, etc.

The Sussex Manufacturing Company, Limited, Sussex. N. B.

DR. SPARLING VS. THE FARMERS

In a recent issue of The Ottawa Citizen, Margaret Graham Horton, who is a sister to Mrs. J. R. Semple, Brule, N. S., replied to a denunciation of the farmers of Canada as follows:—

"Editor Citizen: The Rev. Dr. Sparling's denunciation of the civil servants of Ottawa having been ably and forcibly answered by Mr. O'Hara in your issue of this morning, I would like to direct the attention of all fair-minded citizens to another sermon preached recently by the same clergyman. Unfortunately, the class denounced on New Year's eve, a class usually figuring in pre-election oratory as "the backbone of the nation," by city folk the least understood, the most misjudged class of our whole population, have had as yet no city spokesman to defend them from the cry of "shame" hurled at them by the reverend gentleman.

"When Dr. Sparling says, "The farmers of Canada ought to be ashamed of themselves for not producing bigger crops during the past year," he quite evidently knows not whereof he speaks. In what part of Canada could Dr. Sparling have lived last summer not to be aware of the unusual weather conditions? Did he know nothing of the torrential rains which fell at a time when the land required sunshine, rains which in some places became swollen streams, washing out twice planted or sown seed? Did he never read of the frosts, the hailstorms, the hot, dry winds in the prairie provinces, or the long drought, burning to the earth the late-sown crops in the eastern provinces? Was he so occupied with the morals of the civil servants as to render him oblivious to these facts? Any of the polite—even if sinful—officials of the Department of Agriculture would, if Dr. Sparling had taken the trouble to enquire, have given him such information as would have saved him from the fate that inevitably awaits the public speaker who, in attempting to instruct his fellow men in their duties, completely ignores such troublesome details as actual facts.

"In addition to the above easily acquired facts as to the extraordinary climatic conditions which caused a shortage of from one-third to one-half of the average yield in all crops with the exception of hay, Dr. Sparling could also have learned that the acreage cultivated in 1916 was from ten per cent to twenty-five per cent less than in 1915.

"From the obliging—though, I presume, also sinful—officials of the Militia Department, I learn that 45,543 Canadian farmers have already enlisted. Repeat those figures to yourself, Dr. Sparling, and say if you think 45,543 men can be taken from the production of food without affecting the output?

Dr. Sparling suggests that the "soft-handed men in government offices be sent to work on farms." Will he not offer the services of his own soft-handed, non-producing profession? I am assuming that, since pounding the pulpit with the fist is no longer fashionable, the ministry may be included in the soft-handed class.

"City people desirous of understanding the sources of our food supplies and the difficulties attending their production should attend the lectures to be given at the forth-coming stock and poultry show by a number of specialists in scientific agriculture.

"Dr. Sparling is no doubt familiar with Robert Louis Stevenson's Christmas sermon. I quote:

"One person I have to make good;
"that is myself. My duty to my
"neighbor is more nearly expressed
"by saying that I have to make him
"happy—if I may."

"If the clergy of this Canada of ours really wish to live up to the motto "I serve", let them close their churches for the summer months and go to work on the land. When they return to their pulpits in the autumn they will thus be able to give their people first hand and, let us trust, accurate information in regard to farmers and farming."

The foregoing is a masterpiece. The Rev. Dr. has been told a few plain truths that fit not only him, but many more hot air artists who are constantly dictating to the farmers what they should do, while they themselves are enjoying the even tenor of their war. There are two classes of criticisms—constructive and destructive. Dr. Sparling's brand is not the constructive kind. Quite in contrast to the constructive ideas advanced by Prof. Cumming and His Lordship Bishop Richardson at the recent annual meeting of the N. B. Farmers' and Dairymen's Association.

WORK OF P. E. ISLAND EGG ASSOCIATION

Reports submitted at the annual meeting of the P. E. I. Provincial Co-operative Poultry Ass'n recently held, show that 812.595 dozen of eggs, valued at $206.059 were sold through the egg circles. There are 50 on the Island and this is the largest co-operative egg association in Canada. There was an increase of over 200,000 dozens over 1915. The average price last year was 25 1-3c. The association has $20.000 in its reserve fund and no longer needs financial assistance from the provincial government.

The men behind the movement in Prince Edward Island are workers and it is quite evident that the poultrymen of the province are working with them. Is there not a big incentive in the foregoing figures to cause other communities to do likewise.

They all come out of the "BEAVER" FLOUR Barrel
Apple Pie and Hot Rolls for supper—Jelly Roll and Chocolate Cake and delicious homemade Bread for dinner —Puddings and Doughnuts, and Cookies and Raisin Bread — all at their daintiest and best when made of
BEAVER FLOUR
THE T. H. TAYLOR CO.
BEAVER FLOUR
MILLED OF BLENDED WHEAT

"Beaver" Flour is just as good for Pastry as for Bread. It is the product of Ontario winter wheat, blended with western spring wheat to increase the strength. "Beaver" Flour has the best qualities of both kinds of wheat—the whiteness, lightness, delicate flavour and perfect Pastry making qualities of Ontario winter wheat—coupled with the extra strength of western spring wheat. Being scientifically blended in exact proportions, the blended wheats are always the same in strength and quality—and so is the flour.

If you have never tried a blended flour, you cannot imagine what a difference there is between "Beaver" Flour and the usual western spring wheat flours. Get a sack of "Beaver" Flour at your dealer's, and try it for yourself.

DEALERS—get our prices on Feed, Coarse Grains and Cereals. 198

THE T. H. TAYLOR CO. LIMITED, - - CHATHAM, Ont.

Granny's Talk to Young Mothers

"Granny" Chamberlain

"Few young mothers realize the extent to which a cold lowers the system and makes it susceptible to disease. The majority of diseases arise from germs, but it is not widely known that a healthy system will repel their attacks.

Mothers should never allow a cold to run for 24 hours without attention. If this is made a rule there will be less sickness for young mothers to worry over. A good reliable medicine for coughs, colds, croup and bronchitis should always be kept in the home. You may say that you have no confidence in cough medicines, but that is because you have never tried

Chamberlain's Cough Remedy

the medicine that is thoroughly reliable and has stood the test of half a century. There is nothing in it unsuitable for even the baby.

Yours for Health,
—Granny Chamberlain

34

FOR ALL BLACK LEATHER

EUREKA HARNESS OIL

is unexcelled for preserving and lengthening the life of black leather.

This scientifically prepared oil makes harness a rich, inky black—shiny, soft, tough.

THE IMPERIAL OIL COMPANY, Limited
Branches
Throughout Canada

CUMBERLAND COUNTY POULTRY ASSOCIATION

The First Annual Meeting of the Cumberland County Poultry and Pet Stock Association was held Tuesday evening, Feb. 13th, 1917, at 8.30 o'clock in the office of Dr. E. L. Fuller, Blacks Block, Amherst.

Present: the President, Secretary-Treasurer and others.

After discussion and reading of correspondence obtained by the Secretary, it was moved by E. F. McKim and seconded by David Babcock, that the Association be formed. Passed.

Moved by V. G. Fuller and seconded by E. F. McKim, that the Association be called the Cumberland County Poultry and Pet Stock Association. Passed.

Moved by E. F. McKim and seconded by David Babcock, that the officers already elected be the officers for the ensuing year. Passed.

Moved by Wm. Mills and seconded by E. F. McKin that the Directors be not elected until the next meeting. Passed.

Moved by C. B. Chapman and seconded by Wm. Mills that a committee consisting of the Secretary and E. F. McKim and any other member they chose to work with them be appointed, to draft the By-Laws of the Association. Passed.

Moved by David Babcock and seconded by E. F. McKim, that the Secretary be authorized to write Mr. J. P. Landry and get names of Poultrymen in other parts of the County, also more information about joining the Nova Scotia Poultry Association. Passed.

Moved by E. F. McKim and seconded by Wm. Mills that the annual dues be $1.00. Passed.

Moved by Wm. Mills and seconded by E. F. McKim that the Secretary be authorized to get 100 membership cards printed. Passed.

On motion the meeting adjourned until further notice.

Following are the officers elected for 1917.

Hon. President—Mr. I. C. Craig, Amherst.

President—Mr. C. B. Chapman, Amherst.

Vice-President—Mr. W. W. Baird, Nappan.

Secretary-Treasurer—Mr. Victor G. Fuller, Amherst.

"BETTER POULTRY AND MORE OF IT"

FOR
HEADACHES, BILIOUSNESS
CONSTIPATION,

INDIGESTION

Nearly all our minor ailments, and many of the serious ones, too, are traceable to some disorder of the stomach, liver, and bowels. If you wish to avoid the miseries of indigestion, acidity, heartburn, flatulence, headaches, constipation, and a host of other distressing ailments, you must see to it that your stomach, liver and bowels are equal to the work they have to do. It is a simple matter to take 30 drops of Mother Seigel's Syrup daily, after meals, yet thousands of former sufferers have banished indigestion, biliousness, constipation, and all their distressing consequences in just this simple way. Profit by their experience. As a digestive tonic and stomachic remedy, Mother Seigel's Syrup is unsurpassed.

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2015

MOTHER SEIGEL'S SYRUP.

THE NEW 1.00 SIZE CONTAINS 3 TIMES AS MUCH AS THE TRIAL SIZE SOLD AT 50c PER BOTTLE.

IMPORTANCE OF SECURING VIGOROUS POTATO SEED STOCK

Experiment conducted at the Dominion Experimental Station, Kentville, N. S., with eight lots of Garnet Chili potatoes secured from different growers in 1915, show a variation in yield of from 36 bushels to 240 bushels per acre, or a difference of 204 bushels per acre in yield when grown under uniform conditions. Seed from these eight lots planted in 1916 yielded from 68 bushels to 212 bushels per acre, a difference of 144 bushels per acre. The respective positions of the different lots were changed very little in the second year, but the lowest yielding ones increased somewhat and the highest yield yas not so great.

Seed from fifteen others of this variety was planted in 1916 and the lowest yield obtained was 158 bushels and the highest 278 bushels per acre, a difference in favour of the best over the poorest of 120 bushels per acre.

Ten lots of pure stock of Green Mountain from different growers ranged from 180½ bushels per acre to 313 bushels per acre, a difference of 132½ bushels. Seventeen lots of Irish Cobbler ranged from 93 bushels per acre as the poorest to 235 bushels as the best, a difference in favour of the best yielding strain of 142 bushels. This would show that there may be as great a difference between potatoes of the same variety as there is between potatoes of different varieties, and that it is wise to secure stock from farms which have had high yielding crops. Because the Green Mountain has failed in giving a crop on a certain farm is not proof that this variety will not yield well there; it may have been due to low vitality in the seed stock. Such reversion in yield may have been due to disease, or adverse soil or climatic conditions which affected the crop at some time and it may be better to discard the stock entirely than to try to bring it up to its former vitality by selection.

Saves Money, Time, Labor

Electricity on the farm gives you the great advantage of clear, clean, brilliant, convenient light. But over and above all that, it saves money, time and labor. Delco-Light will shortly pay for itself in money and time saved.

With Delco-Light you save the time of cleaning lamps and lanterns. Housework and chores are done more quickly because of better light. In addition, Delco-Light power will do the milking, separating, churning, washing, water-pumping, feed-cutting. Allowing only 10c an hour for labor on your farm, Delco-Light will save you at least $127.40 a year.

Compact, Sturdy Motor

This is the Delco-Light Powerstand—a portable, efficient little electric motor that will run from any light socket. Runs all your light machinery and can be carried anywhere. Economical of current.

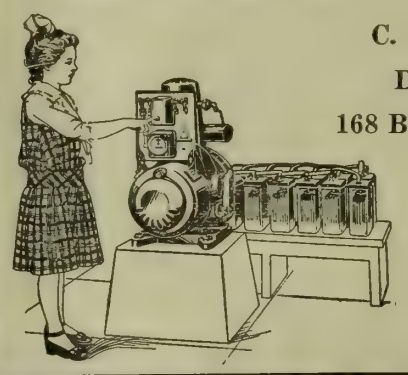
DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

Easy to Operate
Economical, Safe

Simplicity is the key-note of the Delco-Light plant. It is easy to understand, easy to operate. A child can attend it. It consists of gasoline engine, generator, switchboard and batteries. Self-Starting, it stops automatically when its work is done. Gasoline consumption is small—and it is absolutely safe. Prices now—$375 for No. 208 and $450 for No. 216. After Mar. 1st—$390 for No. 208 and $465 for No. 216.

Write Today Get the complete Delco-Light story. We have published books covering every point. Send your name and address on a postcard.



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Domestic
Engineering Co.
DAYTON
Ohio

THE COOPERATIVE PURCHASE OF FERTILIZERS

Editor The Maritime Farmer

In the December report of the Co-operative Extention Work in Agriculture and Home Economics, State of Vermont, conducted by The College of Agriculture University of Vermont, and U. S. Department of Agriculture, co-operating, Mr. Carrigan, one of the Extension Service County agents says:—

"A fertilizer campaign has taken "most of the time of the agent during "this month. Fifteen meetings were "held with a total attendance of 249. "In regard to the campaign Mr. Carrigan states—

"My purpose in launching a Fertil-"izer Campaign could be divided "under two heads. First, to get the "farmers to buying on a basis wherein "expended. Second, to get the farm-

"they would get more for the dollar "ers to use the fertilizer which they "do buy so they will obtain better re-"sults. I might say that so far as "this work has progressed it has been "comparatively successful. I talked "very strongly for the use of chemic-"als, and of course, found many local "agents in my audiences. In no case "could they submit prices that would "compare with the price of chemicals "if ordered at the present time. In "nearly every case the farmers ap-"pointed a local man to handle the "goods for them at a commission of "$1.00 per ton. I think this plan is "going to work out very well. One "man handling the goods in each com-"munity knows his neighbor, knows "local conditions comparatively well, "and is able to much more efficiently "deliver than if one man was handling "for the entire county. It is planned "when all orders are in to group them "and send them in from each receiv-"ing point. Thus in the towns sur-"rounding Bristol, which includes "Lincoln, Starksboro, Monkton, New "Haven and Bristol, all the orders "for these different towns will be sent "in and all the goods come to the "Bristol station in one shipment. "However, they are handled by dif-"ferent local men."

"I believe that probably 300 tons of "chemicals will be ordered in the "county this year, while last year "there were only about 30 tons order-"ed. This will be a saving to the "farmer of approximately $8 per ton. "It does not end here. After the "farmers once buy in this way, I be-"lieve they will adopt the plan per-"manently and that a fertilizer cam-"paign, especially from the buying "standpoint, will not be necessary "in later years."

This is very much along the line of work that is being done by The New Brunswick Agricultural Societies United. The farmers who purchase their fertilizer requirements cooperatively through their agricultural societies are effecting a big saving. This is the third season for the cooperative purchase of fertilizers in New Brunswick. Some local fertilizer agents are opposed to the movement, but many of our best thinking merchants and business men are ready and willing to help the work along. I have heard that at Sussex some of the merchants who own farms, purchase their own supplies from the society and assist in warehousing the goods when necessary. Our farmers appreciate such an attitude. The representative of a large ready mixed fertilizer plant, who attacked the home mixing of fertilizers at The Potato Growers Convention recently held at Woodstock, did not help himself or his firm by his tactics. We have heard of men who had large quantities of ready mixed fertilizers ordered previous to the meeting, and who cancelled their orders and ordered the chemicals for home mixing next day, after the above mentioned attack was made.

An Agricultural Sociey Member.

NEW BRUNSWICK FARMERS' AND DAIRYMEN'S ANNUAL CONVENTION

(Continued from page 257)

lotte, W. J. Bartlett, Waweig; Kent, Hector I. Cormier, Upper Buctouche; Kings, A. D. Northrup, Kingston; Madawaska, Dennis E. Daigle, Lacbaker; Northumberland, James Bremner, Chatham; Queens, Fred N. Fowler, Chipman; Restigouche, James E. Stewart, Dalhousie; St. John, Alex. Johnston, Upper Loch Lomond; Sunbury, A. M. Burpee, Burton; Victoria, S. Wright, Andover; Westmorland, Frank Trueman, Point De Butte; York, W. E. Palmer, Scotch Lake; Gloucester, W. J. Scott.

The new president took the chair and thanked the members of the association for the honor done him. It was moved that both parties at the next election in the province be asked to have a farmer on the ticket in each county. This was carried.

M. A. MacLeod and W. E. Palmer were appointed a legislative committee.

A hearty vote of thanks was tendered to the retiring president, G. E. Fisher for his good work, while in the chair.

Votes of thanks were tendered to the proper authorities for the use of the town hall and Normal School building.

S. H. McFarlane was appointed to procure entertainment at the sessions for next year. The session closed with the National Anthem.

A Day at the Experimental Farm

Friday, the closing day of the convention, was spent at the Experimental Farm, to and from which, thanks to the courtesy of the Department of Agriculture, free transportation was provided. A free sumptuous dinner was served by Mr. Hubbard to the two hundred or more visitors. Excellent talks on live stock were given by Prof. E. S. Archibald, Dominion Animal Husbandman, Ottawa, W. W. Baird and W. W. Hubbard. The farm equipment in [illegible] and live stock was closely examined. Here a little and there a little, information and ideas were gleaned that will help make the Experimental Farm become what it is intended to be, a real help to the farmers of the province. Votes of thanks were tendered to the various speakers to Mr. Hubbard for his courtesy and to the Dept. of Agriculture, before the farmers returned to Fredericton ready to disperse and go to their respective homes.

Pale Weak Nervous Children
SCHOOL days are anxious days for parents as well as for children.
At the most critical time in their lives girls, and boys, too, are subjected to the enormous nervous strain which examinations and excited ambition entail.
To many children this means nervous breakdown, with weakness of the digestive system, headaches, fainting spells, and a run-down condition, which makes them fit subjects for coughs, colds and contagious diseases.
The blood has become thin and watery, and the nerves are being starved, as is evidenced by weakness of the optic nerve and the necessity of wearing glasses
The rational treatment for this condition is Dr. Chase's Nerve Food. While gentle and natural in action, this food cure is wonderfully potent in restoring strength and vigor to the exhausted nervous system.
Experience with many thousands of cases has proven that this restorative treatment is just what pale, weak, nervous children need to build up their systems and to help them back to health and vigor.
Mrs. H. Houston, Highland Grove, Ont., writes: "While attending school my daughter became weak and very much run down. She was frequently troubled with bad fainting spells, and nothing we tried seemed to do her any good. We were advised to try Dr. Chase's Nerve Food, and did so with most satisfactory results. I am pleased to tell you that after using five boxes of the Nerve Food she was completely cured, and has had no return of the fainting spells."
This statement is certified to by Mr. Hamilton Houston, J.P.
50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.
Do not be talked into accepting a substitute. Imitations disappoint.
532
Dr. Chase's Nerve Food
DR. A. W. CHASE'S NERVE FOOD
NERVOUS PROSTRATION
BRAIN FAG
HEART FAILURE

A 21,000 LB. AYRSHIRE

It will be welcome news to Ayrshire men that a new record has been made in the Canadian Ayrshire world, by the cow "GRANDVIEW ROSE" 37030—owned by Shannon Bros., Cloverdale, B. C., that finished her test January 31st, last, with 21,423 lbs. of milk and 900 lbs. fat and is due to freshen early in April, this is equal to 1050 lbs. of butter. Her age at commencement of test was five years and twenty-two days.

This cow was bred by the Messrs. Shannon Bros., her sire being SPRINGHILL LIVE WIRE—27778—by LESSNESSOCK DURWARD LELY—(imp) 24758—(6746). Her dam was AUCHENBRAIN MAY (imp)—27779—by AUCHENBRAIN CRUSADER (6807). It will be seen that this cow's breeding is backed up by blood from the most productive strains in Scotland. GRANDVIEW ROSE is a large cow and true to Ayrshire type and form. The Messrs. Shannon Bros., are to be congratulated on being the first Canadian Ayrshire breeders to breed a cow to pass the 21,000 lb. mark in Record of Performance.

NEW IMPROVEMENTS IN THE DE LAVAL SEPARATOR

Since Dr. De Laval perfected the first cream separator in Sweden in 1878, there have been many improvements made in the construction and operation of these wonderful cream-saving machines.

In such improvements The De Laval Company, the world-wide organization built up on the foundation so well laid by Dr. De Laval and his associates, has always been the leader. In fact, most of the changes which have been effected in the gradual improvement of the cream separator during the past 40 years, originated in some one of the various De Laval shops, either in America or Europe.

The De Laval Company is now making announcement of a new machine which embodies many advantages over pervious styles, including a self-centering bowl, greater capacity, easier running and simpler bowl construction.

All these and other improvements are fully described in the new De Laval Catalogue which will gladly be mailed from The De Laval Company's office in Peterboro, Ont., upon request.

ANTI-FREEZING LIQUID FOR GAS ENGINE

Many anti-freezing mixtures and preparations for use in gas engines during the winter months have been proposed at various times. There is one, however, that is seldom mentioned, but which is claimed to be excellent in many cases. This is plain kerosene which will not usually freeze except in very low temperatures experienced in this country. One of the advantages of using kerosene as an anti-freezing liquid is that it has a tendency to clean any dirt which may have collected in the radiator or cooling tank of the engine. Also kerosene will not injure the majority of cooling devices.

One caution in the use of kerosene is that it should not be used in automobiles or other engines which have a tendency to run hot and boil the water; the reason for this is that kerosene boils much quicker than water and would be rapidly wasted if used in a hot engine.

There is no real reason why farm homes cannot be warmed as comfortably and evenly all through the winter as our city homes.

McLAUGHLIN

"WHEN BETTER AUTOMOBILES ARE BUILT — McLAUGHLIN WILL BUILD THEM"

THIS appropriate phrase is more than a working motto, more than a stirring slogan—it is a promise backed by performance.

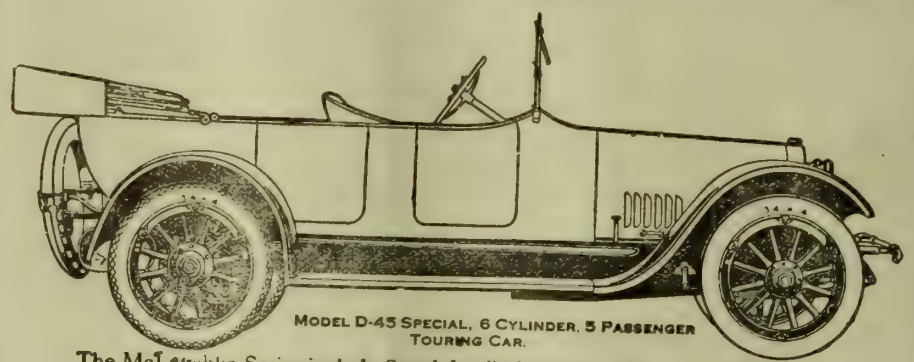
McLaughlin builders have won today's undisputed leadership on a Big Idea—a right principle, rightly applied, the famous McLaughlin Valve-in-Head Motor.

But McLaughlin science, skill and building honesty, is ever ready to make that "better" automobile whenever it can be built.

The constant aim toward the greater service is the way McLaughlin builders prove their appreciation of Canada's endorsement.

Send for new Catalogue "A" showing complete line to

The McLAUGHLIN MOTOR CAR CO., Limited,
OSHAWA, ONTARIO.



MODEL D-45 SPECIAL, 6 CYLINDER, 5 PASSENGER TOURING CAR.

The McLaughlin Series include 6 and 4 cylinder cars in Touring, Roadster and Sedan types, ranging in price from $895. to $2350.

See the 1917 McLaughlin Models at the nearest Show Room Branches in Leading Cities. Dealers Everywhere.

"Canada's Standard Car"

SEAMAN and STEWART OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

Elmwood Stock Farm
Offers for Sale:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N.

COMING EVENTS

Butter and cheese makers courses at the N. S. A. C., Truro, March 7 to April 4, 1917.

Seed Fairs and Short Courses

Lawrencetown Short Course, Monday to Thursday, Feb. 19—22.

Yarmouth Field Day and Seed Fair, Friday, Feb. 23rd.

Bridgewater Short Course Wednesday to Friday, Feb. 28th to March 2.
Seed Fair Thursday, March 1st.

FOR SALE!
R. O. P. HOLSTEINS!

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

BUTTER PARCHMENT--Printed or Plain--at Maritime Farmer Office.

TO THE PEOPLE OF CANADA

Two years ago in a message to the farmers of Canada, special emphasis was laid on the important part food production and distribution would play in this world war. It was pointed out that the drafting of twenty millions of men into European battlefields and the destructive process of war itself must inevitably be followed by diminished production and enhanced cost of food. Today Roumania, Poland, Belgium are conspicuous and tragic examples of what these things mean. The German food ration is now half the normal requirements and under the steady pressure of British sea power, the Hun is daily tightening his belt. But though the great stress is on the central powers, other nations are feeling the strain. The smaller neutral countries are confronted with food shortage and high prices. Switzerland and Holland, in arms for defence, feed from their own scanty supply thousands of refugees who, homeless and destitute, have fled thither for sanctuary. England, menaced by an ever-increasing sub-marine warfare, is organizing her agriculture on a new basis, enlisting for her farms the services of women and disabled soldiers, and putting her beautiful and historic parks under the plough. France sows her grain and reaps her harvest, even within the sound of the guns, by the heroic and unceasing labour of her old men, women and children.

Such is the picture of Europe at this hour. Facing the fateful days which lie before us in this third and sternest year of the war we realize with increasing clearness how vital a factor in the final decision the food supply must be. The Government of this country fully appreciates what the farmers have done during the past two years. In urging them to maintain their efforts, though confronted with more difficult conditions, I do it, not because of the high prices which will doubtless hold for nearly all food products, but because of the important and special service which Canadian agriculture can render the Empire at this juncture. All who assist in this work render a great service to the State. I do not say the greatest for that is done by those, who facing death, daily serve their country at the battle front. Thousands of us cannot so serve, but we, who are mercifully free from the iron heel of the invader,—we, who know nothing of the terrors by sea and the privations on land which others suffer, may well redouble our efforts to supply what they may sorely need.

I especially appeal in this critical year to those in our cities and towns who hitherto have not felt the necessity for directing their energies to food production. Individual efforts, even though small and unskilled, will in the aggregate mean much. By applying or by assisting farmers, everybody having health can accomplish something. There is need, not only for an increased supply but for a wise economy of food. If all labour is not efficient there can at least be patience and forebearance where partial efficiency is accompanied by willingness. There is no place in the State now for either half-hearted service or ill-founded criticism. In the common task which faces the country Co-operation should be the watchword. The Dominion and Provincial Departments of Agriculture are already giving, and will continue to give, special attention to the many problems involved. The National Service Board and the municipalities are also devoting their energies to these questions, and I am confident that the various organizations both of men and women throughout the country will give whole-hearted and active support to a work which at this special time is a high and necessary national service.

MARTIN BURRELL,
Minister of Agriculture.

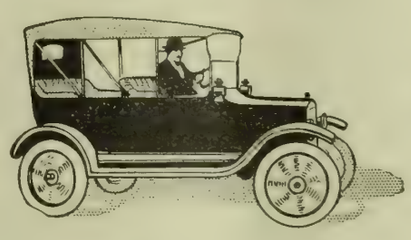
Costs No More Than a "Span"—

It seems almost impossible, but it is true that you can get a handsome, comfortable, speedy 5-passenger Ford motor car for no more than it would cost you for a span of good driving horses, a carriage and harness.

The initial cost of a Ford car is so small that every progressive farmer can readily purchase one.

And who wouldn't rather motor to town, to church, to the railway station, to the neighbor's, than drive? — especially when it is three times as fast to motor, more comfortable and less expensive.

The low cost of running the Ford makes motoring possible for the masses, where it was formerly a rich man's luxury. It makes motoring a matter of good business, especially for those whose time is valuable. And with labor so scarce no one needs the time-saving Ford so much as the busy farmer!



Ford

Touring - - $495
Runabout - $475
F.O.B. FORD, ONT.

Ford Motor Company of Canada, Limited

FORD - - - ONTARIO.

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MANITOBA SHIPS WINTER BUTTER

A new milepost has just been passed in Manitoba Dairying. Five years ago fifty carloads of butter were imported from the Eastern provinces to supply Winnipeg's butter requirements during a single winter. Since that time the Manitoba creamery industry has so grown that now no butter is being brought in from outside, and even during the winter season Manitoba is for the first time exporting creamery butter. On January 26 a carload of Manitoba creamery winter made butter left for Vancouver at a price somewhere about 40 cents, f. o. b. Winnipeg. This will help to take the place of the shiploads of New Zealand butter that formerly was brought from New Zealand to supply the Canadian winter demand not only in the Coast cities, but also in many of the interior cities as well. The Manitoba dairy authorities state that our butter is giving good satisfaction on the Coast market and that the grade is being steadily improved in most of our creameries.—Geo. Batho.

The time is past when any man can justly claim that he can tell by looking at or even milking a cow, how much milk or fat she will give in a year.

COSSAR STOCK FARM, Lower Gagetown, N. B.

Importers and Breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep. A number of choicely bred animals for sale.

G. C. COSSAR, Prop. **J. MEIKLEJOHN, Agent.**

Elmhurst Stock Farm!

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N. S.

SHORTHORN CATTLE

Our present offering is a number of of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

J. E. HETHERINGTON
Codys, N. B.

Guernseys!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE
Great Village, N.S.

Registered Stock for Sale

Guernsey and Ayrshires Bulls, ranging from nine months to eighteen months old.

Guernsey and Ayrshire New Milch Cows. Also Young Calves of both breeds. Last but not least, Registered Shropshire Ram Lambs. The above will be shown at Shubenacadie District Exhibition.

John McDonald & Son
Shubenacadie, N. S. - Bloomfield Farm

LONE PINE AYRSHIRE

Present offering one bull calf dropped Dec. 23, 1916. Dam Milkmaid of Springbrock Farm, record of a two year old 8,864 lbs. of milk, 349 lbs. of fat, now under test for a four year old, giving almost 50 lbs per day. Sire, Springbank Roger, his Dam has a four year old record of 11,385 lbs. of milk and 511 lbs of fat. Also one two year old bull by same sire.

Stewiacke, Col. Co., N. S.
T. J. HAWKINS,

RIVERVIEW STOCK FARM

Holstein Cattle, Yorkshire and White Chester Swine.

Write us for prices, and breeding of bulls ready for service. Have some nice boars for sale, also Sows ready to breed. The right type and prices right.

D. R. NICHOLSON, - Coxheath, N. S.

Eggs for Hatching from Exhibition Matings

Barred Rocks Pullet Mating Strain.
Yard 1—Headed by Hector, imported from Grove Hill, mated to him are 1, 2, 3 pullet, 3rd hen at Amherst Winter Show, 1, 2 pullet, 2, 3 hen at Kentville.

Barred Rock Cockerel Mating Strain.
Yard 2—Headed by Bradley II, 1st cockerel at Amherst, mated to him are three daughters of Bradley I and three pullets in 1st Kentville pen.

White Wyandottes.
Yard 3—Headed by White Bird, 1st Amherst cockerel, mated to 1, 3, 4, 5 hen and 3rd Amherst pen and 1st Kentville pullet.

Blue Orpingtons
Yard 4—Headed by Blue Boy, 2nd Amherst cock, mated to 2, 3 hen and three hens in 2nd Kentville pen.

Single Comb R. I. Reds.
Yard 5—Headed by Kentville Boy, 1st Amherst cockerel and 1st at Halifax, Yarmouth, Kentville, mated to 1st Kentville pen hens, 1st pullet and 1st hen Amherst, 1914.

Our Rocks won Silver Cup for best display in open class, 1916.

Eggs from these pens $2.00 per 13.

KENTVILLE POULTRY YARDS,
KENTVILLE, N. S.

FOR SALE

R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

Lawndale Stock Farm

Jerseys and Shorthorns

Present Offering in Jerseys:

One Grade Jersey Heifer, dropped Feb. 22nd 1915, bred to our herd bull, "Ol Ferns Lad, 3269. She is due to calve next summer and is large and handsome. Sired by double grandson of "Champ. Flying Fox."

In Shorthorns We Offer:

One all red Bull Calf, dropped in Nov. 1916. Sired by first prize winner in his class Halifax Exhibition, 1915.

One all red Bull, dropped May, 1915, very large and handsome of proven worth in service.

One roan Heifer, dropped Dec. 3rd, 1915, out of a grand milking mother and sired by "Stately Monarch." Grand champion Halifax and Charlottetown, 1916.

One all red Heifer Calf, dropped Aug. 27th, 1916, out of a splendid prize winning mother and also sired by "Stately Monarch," as above.

Write for information.

I. M. LOVITT, M. D.,
Yarmouth North, - Nova Scotia

"Homestead Farm"

Holstein-Friesian Cattle
Clydesdale Horses
Shropshire Sheep
Berkshire Pigs

Our present offering is three bulls, fit for service. They are all good individuals and have good official backing. Can part with a few heifers ready to freshen next fall; also some bull calves. Our Berkshires are about all sold and we are now booking orders for ram lambs for fall delivery. Write for description and prices.

Long Distance 'Phone.

LOGAN BROS., Amherst, N. S.

GUERNSEY BULLS!

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA.

Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding **The Farmers Most Profitable Cow** should be sent to the Secretary of the Association

W. A. CLEMONS, St. George, Ont.

SPRINGVALE HERD

Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS
AMHERST, N. S.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Merce es," No. 11727, the sire of our 26.54 lb. Jr. 3 year old nd who so far has not tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particu ars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

McINTYRE BROS.,
Sussex - - - - - - N. B.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

Don't forget while looking at the winners, that there are plenty of the old sort at Bellevue. They are not staying home from choice. Let us quote you prices on stuff that can win in herd and showing. Shorthorn cattle, Shropshire sheep and several heavy horses for sale at right prices.

C. A. ARCHIBALD, - Clifton, N. S.

NETHERLAND FARM, Hammond River, N. B.

HOLSTEIN CATTLE AND YORKSHIRE SWINE

WM. S. HARDING, PROP.

We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Fo forit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

ATTENTION.—We can supply anything you want in Holsteins, young Bulls from 1 to 15 months old, Cows and Heifers, fresh or to freshen soon, yearling Heifers or Heifer Calves. We intend showing at the Amherst Winter Fair and will be pleased to meet our old customers and anyone interested in Holsteins there. Write your wants to

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

Present offering:—Bull Calf, month old. Weighed 112 lbs. at birth. Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seven days. This calf is a splendid individual and fit to head any herd when mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

FARMS FOR SALE

Send for FREE Catalogue; with descriptions and prices of over 1000 farms in Nova Scotia.

McCALLUMS LIMITED,
"The Real Estate Men"
Truro, - Nova Scotia

Chester White Pigs For Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B

FOR SALE!

A number of Cockerels from best laying strain S. C. Rhode Island Reds, White Leghorns and Barred Rocks. One Rhode Island Red and one White Wyandotte Cock birds. One pure bred Holstein Bull Calf, 8 months old also one pure bred Holstein Cow and several pure bred Oxford Down Ram Lambs.

N. W. EVELEIGH
"The Orchards" Sussex, N. B.

FOR SALE

5 Trios of S. C. R. I. Reds at $5.00 per trio. These are good colored birds. 1 two year old cock bird, R. C. R. I. 2 two year old cock birds, S. C. R. I. Red.

Write for prices and particulars.
W. H. HENRY, Shubenacadie, N. S.

FOR SALE

Two pure bred Clydesdale Stallions, 7 and 2 years old. Shorthorn Bull, 5 years old, imported from Ontario. Write us for full particulars.

MORRIS SCOVIL & SONS,
Meadowlands, Gagetown, N. B.

Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,
33 Jubilee Road, HALIFAX, N. S.

HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast males. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order

W. J. M. MacLEOD, Sussex, N. B.

ELMHURST FARM

Booking orders for spring delivery of Berkshire pigs.

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, MARCH 6, 1917. Number 11.

Potato Selection and Disease Control

An Address Given Before the Farmers' and Dairymen's Convention by Prof. G. C. Cunningham

Last year I had the privilege of addressing the members of the Farmers' and Dairymen's Association on the subject of Potato Diseases. Before discussing the present subject, it would seem advisable to review briefly the statements which were made at that meeting. You were informed that the farmers in the Province of New Brunswick planted approximately 40,000 acres of the best agricultural land in the Province, to potatoes, which is possibly 7,000 acres less than during the season of 1914. If you had received a yield commensurate with the land planted. the labour applied, the fertilizer and seed used, you should have harvested at least 300 or 350 bushels per acre, or a total of 12,000,000 bushels, but instead of producing this amount, you produced about 150 bushels per acre, or a total of 6,000,000 bushels. This possible yield of 12,000,000 bushels is not extravagant and figures are available to show that 300 bushels per acre is a comparatively small yield in proportion to what could be produced under conditions which the farmers of this Province have at their disposal.

The following figures, taken from the reports of the Provincial Department of Agriculture, give the acreage planted, and the total yield for the Province during the years from 1910 to 1914.

Year	Av. planted	Av. yield per acre—Bus.	Total Bus.
1910	47,744	127	6,067,276
1911	47,304	180	8,493,212
1912	43,977	183	8,034,604
1913	47,702	190	9,092,393
1914	47,196	209	9,875,570

These figures show that you have been greatly increasing your yields per acre. In 1910 the average yield was 127 bushels per acre, while five years later, in 1914, the average yield was 209 bushels, or an increase of 82 bushels per acre, or a total increase of 3,808,294 bushels.

New Brunswick leads the other Provinces of the Dominion of Canada in yield per acre. This is not because our potato growers are paying particular attention to the subject, but rather because our soil and climatic conditions are such as to permit us to raise very large yields per acre. In order to raise the largest and best possible yield of potatoes, it is necessary to have a cool, moist climate, a sandy loam soil, rich in organic matter and well supplied with the necessary plant foods. The soil must be thoroughly cultivated both before and after planting the crop. I feel that the farmers in New Brunswick are fairly well acquainted with the importance of thorough cultivation and the use of commercial fertilizers, but many of them fail to realize the importance that should be attached to the use of the very best seed obtainable, both from the standpoint of yield and freedom from disease.

A survey of potato fields which has been conducted during the past two years, shows that almost one-half of the total possible crop has been destroyed by various diseases. In 1915, and the same is practically true for 1916, 47% of the total possible crop, or 5,640,000 bushels were destroyed by four diseases. These diseases, and the ensuing loss were:—

Black-Leg, 7¼ or 840,000 bushels.
Rhizoctonia (Little Potato Disease), 5%, or 600,000 bushels.
Mosaic, 10%, or 1,200,000 boshels.
Late Blight, 25%, or 3,000,000 bushels.

During the past year, a great loss was sustained through a wilting of the growing plants, encouraged possibly by the hot, dry conditions and an unsuitable food supply, brought about by the lack of potash. Many of these diseases are carried in the seed from year to year and can be eliminated if the potato growers secure seed stock from high yielding fields and free from the various diseases. I would like to take time to review briefly some of the more important diseases which are met with to a greater or less extent on practically every farm in the Province.

Black-Leg.—A bacterial disease which so far as is known is carried from year to year by the use of infected seed. In typical cases, infected plants die in the early part of the season as the result of a rotting and blackening of the stem which shrivels at the base where the plant comes in contact with the infected tuber. During the early stages of the disease, the leaves roll up and the plant assumes a more or less bushy appearance, the stem turning distinctly black. In other cases, the disease progresses less rapidly so that the plants arrive at full growth without showing distinct evidence of infection. Plants affected by this latter type of the disease, produce tubers which are usually more or less seriously affected and which serve to carry the disease over from year to year and perpetuate it in the crop. All the evidence accumulated to date indicates that the bacteria causing the disease are unable to live in the soil, even during a single winter and therefore it must be carried by the seed. In order to combat this disease, it is necessary for the farmer to rogue out all the diseased plants during the growing season, and at the time of selecting his seed, to pick out carefully, tubers free from cuts, bruises, or discoloration. Before planting, they should be soaked for an hour and a half in a solution of one pint of Formaldehyde in thirty gallons of water. When cutting the seed, the farmer should be careful to discard any tubers showing signs of discoloration. The roguing out of diseased plants during the growing season from stock intended for seed, is one of the most effective means of controlling Black-Leg. This practice, coupled with treatment of the seed, forms an almost complete control of the disease.

Rhizoctonia, or Little Potato Disease.—This disease, as previously pointed out, causes an average loss of 5%, or 600,000 bushels, and in some cases the loss has been known to approximate 50% of the crop. It is caused by a fungus which is very generally distributed in all agricultural soils and has recently been shown to be a normal inhabitant of virgin land. There are three types of this disease. One which is met with in the Western States, where it causes an injury closely resembling Common Scab. The second type is well recognized by most farmers and house-wives who find the fungus growing as a small black aclerotin or black specks like warts, scattered over the surface of the potato tuber. The third type, which is serious in practically all parts of New Brunswick, is that known as the "Little Potato Disease." The fungus attacks the roots and stem of the plant below the surface of the ground, causing brown, sunken, cankerous lesions which more or less girdle the stems so that they are unable to perform their function of taking food from the soil to the growing plant, or of transferring the starch which is produced in the leaves, to the underground stems where it is stored in the form of tubers. A badly attacked plant shows a decided wilting, accompanied by a thickening of the stems, and, in some cases, the formation of aerial tubers in the axils of branches or loaves; in addition to this we almost invariably find the potatoes forming just at the surface of the ground, sometimes as many as 50 or 100 small tubers. none of which are of any value for seed or table purposes. At the present time, no reliable method is known for the control of this serious disease and it is hoped that the farmers who are interested in the potato industry, will endeavour to find for themselves some method whereby the disease may be checked. There is a possibility that the use of vigorous seed may aid to some extent at least, in overoming this trouble.

Mosaic.—The Mosaic disease, so far as is known, is not caused by any fungus or bacteria, but is believed to be an indication of running out or degeneracy brought on by growing potatoes under unfavorable conditions. Such conditions may be brought about by poor cultivation, insufficient food or moisture supply, and by abnormally hot spells during the growing season. It is characterized by yellow mottling of the green of the leaves, and in many cases accompanied by a puckering of the foliage. In mild cases the plants are large, but in other cases the plants are greatly dwarfed. Since it is the green coloring matter in the leaf, which, in conjunction with the sunlight, manufactures the carbon dioxide of the air, and the moisture brought up from the roots into starch, that enables the plant to produce tubers, it will be readily seen that the yield must be greatly reduced by the displacement of the green coloring matter by the yellow coloring matter, which does not manufacture starch. In addition, the small diseased plants naturally cannot produce as many marketable tubers as a large plant.

At the Experimental Station at Fredericton, evidence has been collected to show that this disease causes serious damage, in some cases amounting to over 50% of the crop. Plants which are badly infected, usually fail to produce any marketable tubers. Evidence has also been collected to show that the disease is hereditary. Once a plant has become affected, the tubers produced by that plant will carry the disease and produce similar plants the next season, and in most cases the disease is more pronounced during each succeeding year until the plant fails to produce at all. Therefore, in order to control this disease, the farmers should carefully remove, during the growing season, all plants showing indications of the disease, and in addition, select medium sized, good looking tubers for seed.

SEED SELECTION

From the remarks which have been made concerning diseases, it will be seen that possibly the most efficient way of eliminating disease, improving the quality and increasing the yield of the crop, may be brought about by careful selection and too much emphasis cannot be placed upon this important subject by the farmer who wishes to obtain the best possible yield, or to produce stock which would be suitable for seed purposes. If the potato growers of New Brunswick are to compete successfully with other potato sections and to find a ready market for their crop, it is necessary for them to improve their stock by producing seed selection.

The following is a brief outline of the method which should be followed by the progressive potato grower:—

During the past year we succeeded in having about 150 farmers select

(Continued on page 289)

Alfalfa Outlook in Prince Edward Island

By J. A. Clark, B.S.A., Superintendent Experimental Station.

Alfalfa growing is still in the Experimental Stage in Prince Edward Island. Many have grown it in a small way for a number of years and the demand for information is ever-increasing in regard to the cultivation of this crop. The observation and suggestions offered herein are based on the writer's personal experience on his father's farm, at the Experimental Station at Charlottetown, and upon observations of the methods of others who have been more or less successful in growing alfalfa in various parts of the Province.

Soil and Location

Land for alfalfa should be well drained either naturally or otherwise for the plant will not tolerate wet feet, neither can it live if it is covered with solid ice during the winter, It is naturally a dry country plant and does better on what we call warm open land. A shelter that will hold the snow through the winter is a good protection against spring heaving. An application of lime is beneficial.

Seed

When good seed is obtained and the land worked up into good tilth for clover seed, alfalfa has always caught well. The percentage of failure in getting a good start when alfalfa has been sown at almost any time throughout the Spring or early Summer is very low indeed. This would indicate that the seed sold in this Province has had a good strong vitality.

Varieties

Tests with so-called varieties of alfalfa have been made at this Station from year to year. Efforts have been made to secure the hardiest strains obtainable. The plant in the photograph was from a plot of common alfalfa named Hungarian which in 1912 gave three cuttings as follows: June 25th, 5 tons 639 lbs. per acre, August 3rd, 1 ton 1081 lbs. per acre, and August 24th, 1 ton 86 lbs. per acre, total, 7tons 1806 lbs of cured hay. This was the average yield worked out from small plots sown in duplicate. This was much above the average yield of any years and was a very unusual crop.

The alfalfas of the variegated type have withstood the Spring heaving slightly better than common alfalfa. This is probably due to their more wide spreading root system. A straight tap root is more likely to be broken than the type shown in the illustration.

When we are able to get seed from hardy vigorous plants that have withstood our climatic conditions here, we will have made a long stride forward in the cultivation of this fodder plant in Prince Edward Island. The variegated alfalfa which at present seems to be the hardiest here frequently acts like other cross-breds and is sterile. At Charlottetown during the Summer of 1914 the different strains of two year old variegated alfalfa did not produce seed from either cutting.

Inoculation

Sometimes after securing a good stand the plants seem to stand still showing lack of vigor about midsummer or in the following Spring and assume a light or yellowish green color. This indicates that the plants need nitrogen and that they have already used up the available supply that was in the soil. In poor land this may occur with seedlings only a few months old. Even in such areas dark healthy spots a few feet in circumference may be seen here and there in the field, where the foliage is a dark, rich green. These indicate that these plants are getting an abundance of nitrogen, no doubt from the bacteria which forms nodules on the roots of alfalfa whenever it is present and from which the alfalfa plant in due time receives a sufficient supply of that necessary plant food, nitrogen. The presence of bacteria on the roots of alfalfa is indicated by nodules that often form in clumps that resemble miniature bunches of grapes.

It will pay to inoculate the soil when seed is sown on land for the first time. Many farmers receive each year from the Experimental Station inoculated soil from old alfalfa plots. This is sown on the land at the rate of about 200 lbs. per acre and worked in at once. It is well to prevent the sun shining on these bacteria, because like their destructive relatives they die when exposed to the direct rays of the sun.

Difficulties

The two chief difficulties met with in growing alfalfa here are the spring heaving of the plants and the crowding out of the alfalfa by hardy native plants, the most tenacious being the natural grasses. To overcome the first, land should be chosen that is naturally well drained, or the land should be drained. Types of alfalfa should be chosen that are least liable to be killed when they are lifted by frost. The injury by the second difficulty can be to a large extent overcome by thorough, clean cultivation for a considerable period before seeding and by the use of the disc harrow, run with a very slight angle, on the field after each cutting. The bloom has been found to be a very poor guide to determine the time to make the different cuttings. It is much better to examine the crowns and cut as soon as the crowns begin sending up a number of new shoots.

With untried plants it is always well to begin in a small way. A few rows that can be hoed and kept clean or a quarter acre that can be fenced makes a very good sized plot to begin with. Very much can be learned about this plant by observation. We have found that thorough, clean cultivation is essential so that the plants may get a firm foothold before the natural process of crowding by the many persistent plants begins. A splendid time to seed is just before a warm June shower, the date does not seem to make much difference.

Encouragements.

Under ordinary conditions alfalfa is as valuable and about as sure a crop as red clover. It has lived over winter under the same conditions with red clover and quite as many plants survived. Under many adverse circumstances alfalfa has shown itself to be quite equal to red clover as a biennial crop and there is always not only the possibility but the probability that it will persist and supply the best quality of hay for a number of years. The data gathered up to the present time indicates that under favorable conditions there is a most promising future here for this wonderful forage plant.

SMALL FRUITS--*By R. D. L. Bligh.*

The small fruits, comprising the strawberry, raspberry, blackberry, currant and gooseberry play a very important part in the economy of the household in-as-much as they come at a time when there is a scarcity of other fruit and oftentimes of vegetables as well. No farm is complete without them, yet there are farmers and fruit growers who say that it is cheaper to buy them for the family than to grow them. Doesn't this go to prove that such a farmer and his family would consume far less berries than they would if they grew them in their own garden? Small fruits are too easily grown on our farms to be neglected. The wild berries of the fields and wood lots are fast disappearing, time is better employed elsewhere than in hunting for the few that remain, and such fruit costs too much. Therefore at this time when we must practice economy of all kinds it is important that every fruit grower and farmer should feel it his duty to at least set apart a small piece of ground sufficiently large to be capable of producing all the small fruits that the family can possibly consume during the year.

By way of showing you the urgent need of producing more small fruits than we have been doing heretofore to supply our own domestic needs and the demands of our ever increasing local markets, I will give you the following Statistics taken from the Census of 1911. In that year Nova Scotia had 1,248,719 acres of improved land, of this 711,387 acres were in field crops, 40,512 acres were in orchards, 17,618 were in vegetables and 463 acres were in small fruits, or in other words for every acre of small fruits there were 2697 acres of other crops grown. Of these 463 acres, 263,35 and 5 acres were grown in the counties of King's Annapolis and Hants respectively. Leaving 160 acres of small fruits to the other fifteen counties, 90 acres of which were grown in the county of Yarmouth. The yield from which would go to the nearby American markets and hence not compete with out fruit on our local markets. Furthermore the total number of farms in these three counties at this time were 3578, 3223 and 2949 respectively. Accordingly if each farm produced an equal area of small fruits there was at that time only .07, .01 and .002 acres per farm in these counties of King's Annapolis and Hants.

A Block of Yearling Apple Trees in the Niagara Peninsula.

The yield from these 463 acres of small fruits in 1911 was 767,186 boxes while the population of Nova Scotia at the same time was 492,338, therefore if the berries were evenly distributed each man, woman and child in the province would only receive one and one half boxes of berries during the entire year. How many of you would like to pass one year on 1½ boxes of berries of all kinds? Is it not plain that there is urgent need for the production of small fruits? Is there any need to be pessimistic and dream of our production and small prices with these facts before us demanding an increased production.

We have not been awake to the possibilities that lie before us in small fruit production but have been content in the majority of cases to grow small fruits as a domestic luxury instead of a commercial proposition. When we have been given counties that are naturally adapted to the growing of small fruits it is our duty to grow enough small fruits to supply all the demands that are made by those counties that are not so favourably adapted instead of growing them only for our domestic use. With the exception of a few commercial growers the most of our small fruit producers have only one market Halifax or St. John, with the result that the supply soon grows greater than the demand. Prices fall because these markets cannot consume all the fruit that is being unloaded at their doors. Is it not upon such facts as these that your conclusions are built when you say there is no money in growing small fruits? But are there not other markets besides these, While Halifax and St. John are too well supplied there are the markets of Sydney, Glace Bay, New Glasgow, Amherst, Truro, etc., getting their supply? Are they importing them

from other provinces or are they doing without?

Could not your Co-operative Fruit Companies develop markets throughout the entire province of Nova Scotia and also in other provinces and nearby American cities for small fruits as well as apples and potatoes. Ontario is supplying the western markets with tender fruits which are farther away from them than the markets of Montreal, Boston and New York are from us. Is this because we are content to let someone else grow the berries for these markets? With a little trouble and a greater interest in growing small fruits we could with our present organization put strawberries and other small fruits on those markets in carload lots, equal in quality and as cheaply as any county that can grow them. The opportunity is before you, what will you do?

The average yield from an acre of small fruits at the last census was 1657 boxes, hardly enough berries to pay for half the expense of growing an acre of strawberries. The growing of this class of fruit is just as important and profitable as the growing of our apple crop. The apple grower of today is commencing to realize that it only pays to grow a high class of fruit and he also knows that if he can by better cultural methods grow two barels of apples for the same expense as he grew one barrel before he is decreasing the cost of production by one half. This holds true also with the small fruits but the preceeding figure's have shown us that we heretofore have been satisfied to grow our small fruits with little thought of making them pay. A great many of you have doubtless grown them for your own family use with little regard to the commercial side of the question. But today it is different, conditions have changed, the old methods have given place to the new and it is our duty as intelligent farmers to know what it is costing us to grow our crops, and if they are not paying to know whereas our methods are wrong. Therefore, for the benefit of any who have failed or for those that wish to start commercial small fruit growing, I shall give a few point to consider regarding the cultural methods of the various small fruits, but doing this I wish to give you an idea of the profits that can be made from these crops. These are figures taken from our Experimental Farm at Kentville.

Cost of growing one acre of strawberries,—

Rent of land (2 years)	$ 10.00
Preparation of land	5.00
Fertilizers	40.00
Plants	21.00
Planting	7.00
Cultivation	15.00
Mulching	10.00
Picking	62.22
Boxes	36.00
Crates	38.80
Marketing	15.00
Total	$245.02
6222 qts. @ .08 cents	$497.76
Profit at 08 cents per quart	$252.74
Profit at .06 cents per quart	$128.30

CULTURAL METHODS OF SMALL FRUIT

For the Strawberry.

A warm southern slope is prefered for early fruit although almost any location on the farm will do for the strawberry provided the soil is suitable. The soil is important, although strawberries will do on various kinds of soil still a deep rich well drained, rather light loam that is retentive of moisture is essential for the best results. Such a soil cannot be made too rich if the cultural methods are intensive and strawberries have a place in the rotation. The soil should be free from weeds, avoid soil infested

(Continued on page 307)

The New Deering Spreader

WE now offer to farmers a spreader that makes 20 loads of manure do the work for which 40 used to be required. Besides making this important saving, it is a light-draft machine, low, only 43 inches to the top of the box, yet with ample clearance, and it is sold with the most effective wide spreading device we have ever seen.

The spiral you see just behind the beater does the work. It catches the manure just as it comes from the beater, breaks it up into still finer pieces and spreads so much wider than the machine that the rear wheels always travel on uncovered ground when matching the last strip. The spread is even all across, the same in the center as at the edges.

By the use of the **Deering** spreader, stable manure becomes at once the cheapest and the most effective fertilizer for most soils. The spreader is made in two sizes, No. 5 for small truck farms and No. 6 for large farms.

Send your name and address to the nearest branch house and let us give you the details of this best manure spreader.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

The Importance of Planting Vigorous Seed Stock

As pointed out by me at your first annual convention much progress in raising the standard of yield in our potatoes could be made by growers bringing together their seed stock and testing them out under uniform conditions. By this means we would have definite knowledge of how our seed stock compared with others in the community and the inferior stock naturally would be eliminated, as no grower would plant stock of low vitality if he was sure of replacing it by better stock.

This gives an opportunity for farmers to get together and study their crop under uniform conditions, and it also makes possible more effective seed selection work. Seed selection is no doubt of value, but why not start this with the best stock available. The testing should be done under uniform soil conditions and one row approximately 150 feet should serve to obtain reliable comparative yields.

The testing of similar varieties of Garnet Chili potatoes under uniform conditions was started in 1915 at the Experimental Station, Kentville, N. S., and continued in 1916. The yields from the 1915 plots I gave you last season and for comparison these are again given together with the 1916 yield from the seed stock grown on these plots.

We, this year were able, through Mr. Paul A. Murphy of the Division of Botany who has charge of the potato inspection work in Nova Scotia, to secure an additional number of lots of Garnet Chili potatoes from growers in Nova Scotia, yields of which are given in the following table,—

GARNET CHILI

Seed potatoes obtained from different growers in the Spring of 1915.

	Yield per acre 1915. Marketable Bushels	Unmarketable Bushels	Total. Bushels.	Yield per acre 1916 Marketable Bushels	Unmarketable Bushels	Total Bushels
1.—	220	20	240	192	20	212
2.—	94	26	120	94	14	108
3.—	212	14	226	200	12	212
4.—	186	20	206	192	12	204
5.—	26	10	36	52	16	68
6.—	32	14	46	68	22	90
7.—	176	34	210	176	12	188
8.—	52	22	74	80	16	96

Garnet Chili.

Seed potatoes obtained from different growers in the spring of 1916.

	Yield per Acre. Marketable. Bushels	Unmarketable Bushels	Total Bushels
9.—	228	20	248
10.—	216	8	224
11.—	192	20	212
12.—	188	6	194
13.—	268	10	278
14.—	244	12	256
15.—	224	14	238
16.—	168	12	180
17.—	208	16	224
18.—	168	28	196
19.—	188	14	202
20.—	152	6	158
21.—	196	8	204
22.—	260	8	268
23.—	248	20	268

Through the kindness of your Secretary, Mr. G. C. Cunningham, we were able to secure several lots of Green Mountain and Irish Cobbler potatoes from different growers in New Brunswick. We found it difficult to get pure strains in Nova Scotia and in order to secure reliable comparative data true stock was secured. The yields from this seed stock was as given in the tables below.

Irish Cobbler.

Seed obtained from different growers in the Spring of 1916.

	Yield per Acre. Marketable. Bushels	Unmarketable Bushels	Total Bushels
34.—	152	17	169
35.—	182	12	194
36.—	183	16	199
37.—	182	22	204
38.—	189	25	214
39.—	152	17	169
40.—	132	18	150
41.—	192	13	205
42.—	189.5	17.5	207
43.—	214	21	235
44.—	176	12	188
45.—	186	14	200
46.—	138	9.5	147.5
47.—	106	17	123
48.—	77	16	93
49.—	177.5	8	185.5
50.—	146	28	174

Green Mountain

Seed obtained from different growers in the Spring of 1916.

	Yield per Acre. Marketable. Bushels	Unmarketable Bushels	Total Bushels
24.—	295	18	313
25.—	210	10	220
26.—	167	20.5	180.5
27.—	229	11	240
28.—	230	22	252
29.—	254	21	275
30.—	255	15	270
31.—	224	16.5	240.5
32.—	183.5	16	199.5
33.—	178	11	189

It will be seen that there was a difference in yield in 1915 in the eight lots of Garnet Chili planted of 204 bushels, the highest being 240 bushels per acre and the lowest 36 bushels per acre. The difference in yield in 1916 from seed stock of these plots was 144 bushels, the highest being 212 bushels and the lowest 68 bushels. The lowest and highest yielding plots holding their respective position for both seasons. Fifteen lots of Garnet Chili obtained from growers in the spring of 1916 show a difference of 120 bushels the yield ranging from 278 bushels to 158 bushels per acre. Of the ten lots of Green Mountain tested the difference was 132½ bushels ranging from 313 bushels to 180½ bushels per acre. The seventeen lots of Irish Cobbler show a difference of 142 bushels the range being from 235 bushels down to 93 bushels per acre.

Without a doubt the grower with the very low yielding lot will detect

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THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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MARCH 6, 1917.

DATES OF ISSUE.

March 6-20
April 10-24
May 8-29
June 12-26

SHEEP PROTECTION

In the February 20th issue of the Maritime Farmer we dealt at some length with the resolutions introduced and passed by the Nova Scotia and New Brunswick Farmers Associations at their respective annual meetings in Amherst and Fredericton, re the protection of sheep from dogs. If you have not already looked into this matter we trust you will refer to the article in question and write us your views on the matter.

If you are in favor of taxing dogs as a protection to the sheep industry, write us a letter to that effect and we will see that it is placed in the hands of the committee for your province, whose duty it will be to bring the matter to the attention of your Legislaure. You will also help the sheep breeding industry get the desired protection if you will write a personal letter to your representative in your local legislature, asking him to support the purport of the resolution.

It is the duty of every sheep owner and every good thinking dog-owner to support any measure that will give the long suffering sheep breeders redress from the dog nuisance and help foster a languishing, although profitable industry.

We have the following letter anet this subject from Prof. M. Cumming of the N. S. A. C., Truro, which is self explanatory, and we trust interested parties will express their views in accordance with his request:—

"It may not be known to sheep owners that the Nova Scotia law dealing with the killing of dogs is the most drastic in force in Canada. Chapter 61 of the Revised Statutes of 1900, "The Sheep Protection Act" was amended in 1908 so that now any person may kill (a) any dog persuing or wounding, etc., any sheep, (b) any dog being at large and without a collar on which the name of the owner is marked, (c) any dog straying on any farm where any sheep are kept. In the other provinces, clause C is qualified by the words "between sunset and sunrise", but in Nova Scotia there is no limit set. The only exception to the above regulation in Nova Scotia is in the case of a dog belonging to the occupant of the next adjoining premises.

"However, there has developed, especially during the post-war years with their very high prices for mutton and wool, a more insistent demand than usual for a dog tax that will reduce the number of dogs running at large in the Province. At the last meeting of the Nova Scotia Farmers' Association an unanimous resolution was passed favoring legislation for this purpose.

"At present under the provisions of "The Municipal Act," two municipalities in the Province have imposed a tax on dogs and two other municipalities within the past five years attempted to put on a tax but have repealed the tax regulation because of its unpopularity and lack of support.

"In Ontario in 1916, a dog tax was made compulsory over the whole Province, whereas formerly it was left optional with the municipalities.

"At the Nova Scotia Farmers' Association, held in Amherst in January of the present, Mr. O'Brien, of the Live Stock Division, Ottawa, threw out a suggestion that was highly commended by a number of those present, namely, a policy of placing a high tax on female dogs. If such a tax would prove effective in reducing the number of females, it would ultimately reduce the dog population to a minimum and accomplish all that the most drastic law could accomplish. An Act embodying this principle will likely be introduced in the Legislature this winter. This Act will also provide that the taxes collected be set aside in a separate sheep compensation fund to pay losses of sheep either killed or injured by dogs, the owner of which are not known. While this measure will probably be introduced, it is not likely to pass unless it receives general public support. The Secretary for Agriculture for the Provinoe will be glad, therefore, either through the columns of this paper or through private letters, to hear public criticism of this proposed legislation."

FINE FEATHERS DO NOT MAKE FINE BIRDS

Our readers will notice that this issue of the Maritime Farmer goes forth without its characteristic colored cover. Some time ago we sent our order to the mills for cover stock with the expectation that the new supply would reach us before going to press with our March 6th issue. We were informed a few days ago that there was very little chance of doing anything with our order at the present time and that in all probability it might be three or four months before the mills would be in position to execute the order. Our readers will see that this is very indefinite. We have informed the mills that we wish them to put our order through at their very earliest opportunity. Until our new supply arrive, we know our readers will overlook the absence of the colored cover and get as much pleasure and profit out of our columns as they were wont to receive when The Maritime Farmer appeared in its customary dress. The contents of the Farmer will be maintained at its usual high standard. Our farmer friends will therefore receive a fine bird despite the missing fine feathers. The trouble of the Maritime Farmer in regard to securing stock are similar to the troubles encountered by papers and magazines the world over.

FEED OAT GRADES UNFIT FOR SEED

Flour and feed dealers who offer the Feed grades of Western oats should be very careful to warn farmer purchaser against using them for seed. The Feed grades contain oats which are frozen or otherwise unsound and not suitable for milling purposes. They usually give a very low percentage of germination which results in serious crop failure. The sowing of these frozen oats in past years has given the general impression that all Western oats will not do well in Eastern Canada the first year. Home grown seed oats of good quality is so scarce this year that farmers should be especially warned against using the Feed grades for seed.

Eastern Canada farmers are advised to procure local grown oats of the best quality and clean them to thirty pounds per bushel or better if possible. Thus far not more than 100,000 bushels of No. 1 Canada Western seed oats free from wild oats are available in storage. It may be found necessary to make a grade for No. 2 seed oats containing not more than eight wild oats to the pound. This would be very much superior to the Milling or Feed grades which are foul with noxious and other weed seeds.

ADVERTISE SEED GRAIN

We are informed by The Seed Branch, Ottawa, that a large number of inquiries are being received from certain districts asking where farmers can purchase seed oats. Farmers who have seed oats for sale should advertise them in their farm paper. A small advertisement in the columns of the Maritime Farmer will help to dispose of any surplus stock you may chance to have and will also very materially help farmers who are looking for a good supply to locate where they may purchase same. To avoid delays in making sales state the kinds, quantities and prices. If you have a quantity of good oats that you are feeding to your stock, why not separate the best of it and put it on the market for seed, it will help to relieve the scarcity that exists and will bring you remunerative figures. You can easily replenish your feed bins with grain that is not good enough for seed at lower figures than you will get for your good grain. This is one way whereby some of our most careful grain growers may make some extra money in these strenuous times, besides the patriotic aspect of conserving good grain for seed purposes. Farmers are warned against buying frosted oats for seed purposes. There are large quantities of frosted western grain in the bins of some of our grain dealers—beware. A few seasons ago many Maritime Province farmers were badly trapped by unknowingly purchasing frosted grain—do not be among those who will be caught napping this year.

* * *

Every machine and implement which is not in use should be under cover. The winter rains and snows plant the seeds of rust, which are harvested by the manufacturers of farm machinery.

* * *

The roving dog has had his day—a long one. It is now time and high time that he is subjected to reasonable restraint.

POTATO SELECTION AND DISEASE CONTROL

(Continued from page 285)

vigorous potato plants during the growing season and to harvest the crop from them separately, for their seed next year. It is realized however, that many farmers have not performed this initial selection. They should therefore select from their bin, potatoes in shape, from three to eight ounces in weight, free from cuts, bruises and all discoloration. After a suitable selection has been made, the tubers should be soaked in a solution of one pint of Formalin in thirty gallons of water, or in a 1:1000 solution of Bichloride of Mercury. Caution should be taken in using the latter as it is a deadly poison both to men and animals. In selecting potatoes for seed, the general practice of selecting small tubers should be condemned, as diseased or degenerate plants usually produce a high percentage of small tubers, while healthy, vigorous plants are more likely to produce large, uniform tubers.

This constitutes the first stage in potato selection.

When the crop is in bloom, the grower should select the best section of his field which will produce sufficient potatoes for seed for the following year's crop. When the plants are in bloom, he should purify his crop by roguing out and destroying all plants which are not true to the variety which he wishes to raise. He should also pull out and destroy all plants showing symptoms of disease or degeneracy, such as those infected with Black-Leg, Rhizoctonia, Mosaic, Leaf Roll, Curly Dwarf, Spindling Sprout, and any other plants which do not seem to be thrifty or vigorous. He should repeat this process of destroying the rogues, from time to time during the growing season, or at least once more before the plants have matured.

At the time of the last roguing, the farmer should select 100 of the very best hills in his selected plot. These he should mark by means of a stake, and dig separately at the time of harvest. After they are harvested, he will find that many hills which were selected, did not produce as many tubers of the desired shape and size as he expected. Therefore he should cast aside any unpromising hills, keeping only those which gave large yields of ten or twelve merchantable tubers of good quality. The balance of this plot should be dug separately and kept for his next season's planting. The selected promising hills should be planted by themselves in two or three rows, but nevertheless in the same field. These two or three rows would be called his seed plot and to which he would pay particular attention throughout the growing season, as he has planted them to produce seed for the crop of the following year. This we term a seed plot. The successful potato grower does not stop with this one selection, but in order to maintain the quality of his seed he follows the same practice of roguing and selection which was recommended for the first year. Farmers who have continued to follow this system of roguing and selection for a number of years have found it a very successful method of keeping up the quality of their crop.

The question "Should the average farmer get equally good results by selecting from his own stock, or should he change his seed?" The answer to this question should be, "Start with the very best seed obtainable" as the best is none too good and unless he starts from a crop which is not showing a general tendency to running out, he is likely to obtain poor results and get discouraged before he has obtained a class of truly high grade potatoes. Experiments which we have conducted on the Experimental Farms and in fields in different sections of the Province have shown that there is a wide variation in the quality of potatoes being grown by different farmers. In the spring of 1916, Green Mountain potatoes were secured from ten New Brunswick farmers and Irish Cobbler potatoes from seventeen New Brunswick farmers. These were planted on the Experimental Farm at Kentville, N. S., under uniform conditions, each sample receiving exactly the same attention. The results obtained show that the Green Mountain yields ranged from 167 bushels to 295 bushels per acre, a difference of over 108 bushels per acre. The yields obtained from the different Green Mountain strains were as follows:—

RESULTS OF STRAIN TEST PLOT OF POTATOES PLANTED AT KENTVILLE, N. S. GREEN MOUNTAINS.

	Marketable Bus.	Unmarketable Bus.	Total. Bus.
C. F. Fawcett, Upper Sackville, N. B.	295	18	313
Dr. McIntosh, Hartland, N. B.	254	21	275
James Bremner, Chatham, N. B.	255	15	270
A. J. Jensen, Salmonhurst, N. B.	230	22	252
E. L. Hume, Florenceville, N. B.	224	16.5	240.5
N. L. Napier, Lower Woodstock, N. B.	229	11	240
A. A. H. Margison, Centreville, N. B.	210	10	220
Charles Giberson, Wicklow, N. B.	183.5	16	199.5
Experimental Station, Kentville, N. S.	178	11	189
E. L. Hume, Florenceville, N. B.	167	20.5	189

The results obtained from growing the different strains of Irish Cobbler potatoes show that the yield varied from 77 bushels to 214 bushels per acre the best strain giving almost three times as many bushels per acre as the poorest strain. The following table gives the yields of marketable, unmarketable and total yields per acre:—

RESULTS OF STRAIN TEST PLOT OF POTATOES PLANTED AT KENTVILLE, N. S. IRISH COBBLERS.

	Marketable Bus.	Unmarketable Bus.	Total. Bus.
Dr. McIntosh, Hartland, N. B.	214	21	235
Clowes Jewett, Jewett's Mills, N. B.	189	25	214
Samuel Allen, Scotch Settlement, N. B.	189.5	17.5	207
Charles Giberson, Wicklow, N. B.	192	13	205
A. J. Jensen, Salmonhurst, N. B.	182	22	204
C. F. Fawcett, Upper Sackville, N. B.	186	14	200
Adam Moore, Scotch Lake, N. B.	183	16	199
A. A. H. Margison, Centreville, N. B.	182	12	194
James Wilson, Mouth of Keswick, N. B.	176	12	186
Clough Currie, Mouth of Keswick, N. B.	177.5	8	185.5
Experimental Farm, Nappan, N. S.	1b6	28	174
W. E. Palmer, Scotch Lake, N. B.	152	17	169
A. Currie, Mactaquac, N. B.	152	17	169
Frank Haines, Mouth of Keswick, N. B.	132	18	150
B. McKeen, Trip Settlement, N. B.	138	9.5	147.5
Experimental Station, Kentville, N. S.	106	17	123
T. W. Caldwell, Florenceville, N. B.	77	16	93

Similar tests were conducted by nine agricultural societies in New Brunswick, different sections of the Province being selected for this work, viz., Grand Falls, Andover, Florenceville, Tracy Mills, Hartland, Woodstock, Fredericton Junction, Chatham and Scotch Lake. The arrangement for these tests and the obtaining of the data were made by officers of the Dominion Plant Pathological Laboratory and the work was done by farmers and on farms selected by the respective agricultural societies. These tests included strains of Green Mountain potatoes secured from 114 different farmers and strains of Irish Cobbler potatoes from 34 different farmers. The results from these test plots clearly indicate that many farmers are working with almost unprofitable strains, while their neighbour may have relatively high yielding stock. Time will not permit to give all the data obtained from these experiments, but the figures obtained from the test conducted at Andover on the farm of E. W. and Elijah Sisson, will serve to show the wide variation among the different strains of Green Mountains which are being grown by the farmers in the vicinity of Andover. The highest yield obtained, was with stock received from Sisson Bros., which produced 217 barrels per acre, the lowest yielding strain producing only 135 barrels per acre. The lower table shows the variation in the yields obtained in the test plot at Andover. Equally great variations were obtained from test plots conducted with Irish Cobbler potatoes.

These test plots are valuable in showing each farmer the comparative quality and yielding power of his particular strain of potatoes. If it is poor, then he should change his stock, obtaining it from the farmer whose crop proved to be superior to the other. The farmer who had good stock would be able to obtain a price commensurate with its value.

Owing to the high price which can be obtained for ordinary table potatoes, the average farmer whose stock is poor, should find this an opportune time for disposing of his stock at reasonable prices whereby he will be able to purchase potatoes from some farmer who has exceptionally promising stock. Before he attempts his selection as previously outlined he should determine whether or not his own stock is the best obtainable, and if not, he should immediately take steps to obtain good seed before it is shipped out of the Province. Those wishing to obtain good seed would profit by applying to the Dominion Plant Pathological Laboratory at Fredericton for information on this subject.

An additional point which was clearly demonstrated by these test plots in different sections of the Province was the importance of thorough cultivation. Mr. A. A. H. Margison's Green Mountain potatoes produced on his own farm, 162½ barrels per acre. In the test plot at Tracy Mills they produced 127 barrels per acre, in the test plot at Florenceville, 87 barrels per acre, and in the last test plot they produced 12 barrels per acre more than any other strain. This variation in yield of the same strain of potatoes can only be accounted for by difference in degrees of cultivation and fertilization. On his own farm and at Tracy Mills, they were properly cared for and produced good yields, but at Florenceville the weeds were allowed to smother out the potatoes, and they produced only 87 barrels per acre. This and other observations clearly indicate the importance of thorough cultivation throughout the year. An additional stroke of the cultivator or hoe at a small cost is very likely to result in a profitable crop, whereas the neglect of this last cultivation when the potatoes are producing tubers, is likely to result in an inferior crop.

Before leaving this question of testing the yielding qualities of different strains of potatoes, I should like to point out to the delegates of the different agricultural societies that this is one line of work which they could profitably prosecute, each member of the agricultural societies providing one peck of his potatoes to one of the farmers who will undertake to plant them under uniform conditions, keep a record of the diseases developing, the number of weak plants, and in the fall compute the yields per acre from each strain in the test. This is work which should prove profitable to any agricultural society and stimulate interest in the improvement of the potato crop.

RESULTS OF STRAIN TEST PLOT OF POTATOES PLANTED AT ANDOVER. GREEN MOUNTAINS.

Name of Grower	Marketable per Acre.	Unmarketable per Acre.
C. E. Pickett,	137 barrels, 92 lbs.	8 barrels, 85 lbs.
S. B. Wright,	147 " 9 "	6 " 70 "
Slocum Hammond,	135 " 57 "	14 " 132 "
H. G. Ervine,	162 " 124 "	3 " 67 "
R. Ervine,	195 " 49 "	4 " 84 "
John Turner,	156 " 36 "	5 " 127 "
J. W. James,	168 " 27 "	4 " 144 "
E. W. Sisson,	172 " 38 "	6 " 66 "
F. Henderson,	200 " 80 "	6 " 60 "
Elijah Sisson,	217 " 122 "	3 " 99 "
IRISH COBBLERS.		
S. B. Wright,	141 " 6 "	5 " 89 "
J. W. Jamer,	199 " 153 "	9 " 136 "
Sisson Bros.	142 " 84 "	16 " 50 "

HOW OATS MULTIPLY

During his address at the Ontario corn show last week, Dr. Zavitz of the O.A.C., told how a single grain of oats multiplied in three years. Starting with one seed, in three years a little over 100 bushels had been produced. It was good seed to start with—but it pays to use good seeds. He would prefer, if given the choice, one ounce of good seed of a kind that he could get in no other way, than 100 bushels of ordinary seed.

Study the feeding problem in order to get maximum returns for your outlay. It is important to know what it costs to feed a cow, but it is also worth while knowing how much is left in your pocket after the weed is paid for.

Aroostock potatoes are now bringing $6 per barrel, and the prediction is that the price will go to $10 by planting time. Then the question will arise whether it is not wiser to sell seed stock at that inflated price, and use the land for something else, than to plant $10 seed, pay for fertilizer, labor, etc., and produce a prospective $2 per barrel crop.—Maine Farmer.

HORTICULTURE

SOME INJURIOUS, BITING, INSECTS IN NOVA SCOTIA APPLE ORCHARDS

By Alan G. Dustan, Assistant Field Officer, Dominion Entomological Laboratory, Annapolis Royal, N. S.

In a paper of this type, delivered to Annapolis Valley orchardists, perhaps the first insect that should be mentioned is the browntail moth, for it is undoubtedly our worst and most dangerous pest at the present time. I don't intend to go into its life history and control, for you have heard these many times before, but I would like to give some figures, computed from actual counts, that show clearly how the browntail in Nova Scotia is not only being kept in check, but is diminishing from year to year. In passing, I may say that this decrease is due not only to the good work of the inspectors, but to the ever increasing amount of spray that the fruit growers themselves are annually applying to the trees.

The total nests for the last three years are as follows:

1913-14	1914-15	1915-16
24156	18154	14755

These figures speak for themselves and need no further explanation. To date, the total nests for this year show a continued decrease over the number collected last year up to the same time. It seems only natural to expect that this decrease will continue through the remainder of the season.

One important factor in the control of the browntail moth should here be mentioned in order to shield our inspectors from unfair and undeserved criticism in case of an increase in the number of nests during any year.

Each year, when the flight of moths is at his height in Maine and Mass., a few stragglers are driven by the winds across the Bay of Fundy on to the shores of Yarmouth and Digby Counties. Now, on account of their extra strength and lightness, the moths that reach the shores of Nova Scotia are practically all males, which is most fortunate for us. Under some conditions, however, such as a very large U. S. A. flight, strong advantageous winds and dry weather while the flight is in progress, etc., many of the females, as well as males, may be blown across and when such is the case, as was in 1913, the whole of the French Shore becomes heavily reinfested and the work of the inspector, due to no fault of his, has to be done all over again which is most discouraging to him and misleading to the general public until a satisfactory explanation, such as this, has been given.

The Dock Sawfly.—(Ametastegia glabrata.)

Although not a new pest in Nova Scotia, this insect was first recognized as being serious in the winter of 1915-16, when it was found wintering over in excessive numbers in stored fruit grown in an orchard at Meadowvale, N S.

Life History.—The winter is passed by the insect in the caterpillar or larval stage, hidden either in the fruit of the apple, in soft rotting wood or in the bark of trees. At this time the insect is about ¾ of an inch in length, pale green in color and with a dark brown, shiny head. The caterpillar of the dock sawfly is mistaken by many for the codling moth larva. It is an easy matter to distinguish these two, however, since the dock sawfly larva is distinctly green and is usually found near the surface of the apple while the codling moth is white to pale pink in color and feeds near the centre or core of the apple. In the case of the dock sawfly the entrance hole is usually in the side of the fruit while the codling moth enters normally at the calyx end.

Whether hibernating in the bark or fruit, they lie curled up in small cells which resemble their bodies very closely in shape and size. Here the winter is passed, and in the spring, about the middle of May, they commence pupating, the change taking place right in their winter nests. Towards the end of the month the adults, small, shiny-black, four-winged, flies emerge and lay their eggs on the under surface of the Dock leaves, especially the curled-leaf varieties. In about a week, the tiny egg hatches and the caterpillars feed on the leaf until mature, eating large holes right through it as well as feeding only off the lower surface.

When full grown, the caterpillars bore a hole right through the tough outer covering of the dock stem and hollow out a little cell in the soft soft central pith where they change to pupae. This cell closely resembles the cell formed in the apple by the hibernating insect. Two weeks later the adults for the second brood commence to emerge. In Nova Scotia there are three generations in a season. The caterpillars of the last brood, when mature, ascend the trunk of the nearest tree bore a hole into the flesh of one of the apples and tunnel out a cell in which they pass the winter.

Control.—Although this insect does serious damage when abundant, it is one easily controlled on account of its preference for the dock as a food plant. Tests were made in which the larvae were placed on apple foliage to feed but in every case they refused it. Clean cultivation, resulting in the elimination of both species of dock, not only kills the larvae already feeding on it, but forces the

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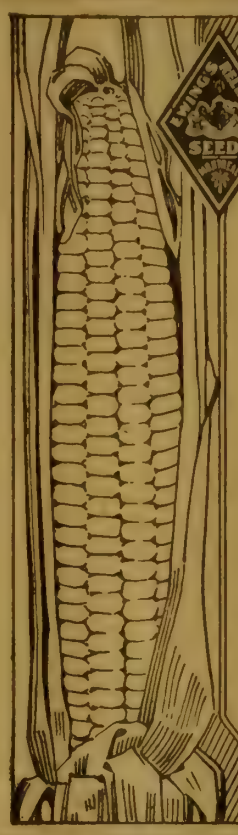

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egg-laying females of subsequent generations to seek their favorite plant in other orchards and fields when laying their eggs. In uncultivated orchards the destruction of all dock plants, by mowing or some other means, gives just as satisfactory results in sawfly control as clean cultivation.

Banding the trees with tanglefoot, before the last generation have fully matured, prevents the larvae from hibernating in the apples which is the only way they cause the orchardist any loss.

The Leaf Sewer. (Ancylis nubeculana)

This pest at the present time is distributed widely throughout the province but in only one case has it been found in large enough numbers to do any extensive damage. Last season an orchard west of Berwick was discovered where approximately 90 per cent of the leaves were attacked.

The caterpillar is small, dark olive green in color and when disturbed usually hurls itself backwards with a nervous wriggling motion. The adult is a small brown and white moth.

The insects attack the leaves, folding them at the midrib and tying the edges together by means of silken threads in such a way as to form a snug nest, half the size of the leaf, with the upper surface on the inside. Here the caterpillars feed during the late summer and fall, eating away the inner (upper- surface and when the leaves fall they are carried to the ground and pass the winter in these nests.

Up to date no work has been done on this insect in Nova Scotia but next season we plan to work out its life history with a view to getting at the best means of control.

Control.—The third or fourth spray by coating the leaves with poison before the larvae fold the leaf are probably the sprays that control the insect. Once the caterpillars get inside the folded leaves it is impossible to reach them with spray.

Fall plowing is also recommended as it buries the leaves which contain the hibernating larvae.

The Tussock Moth

The Tussock Moth is a periodic insect and severe outbreaks occur only once in every eight or ten years. This is due to the fact that the insect is so heavily parasitised. The tussock moth, according to Dr. Saunders, has no less than nine paraistes attacking it. Now when the pest becomes very numerous the parasites also are plentiful and as a result a very great percentage of the caterpillars are killed off and by the next year are practically extinct. But when the Tussocks die, the parasites lose their host. After two or three years of practical extermination the Tussocks again begin to appear and increasing in numbers for four or five years become very numerous, doing perhaps an immense amount of damage, only to be once more brought almost to the point of extermination by their parasites. Thus we see that the number of Tussock caterpillars is wholly dependent on the number of parasites present.

The last serious outbreak of Tussocks occured in 1906-07, when they were most noticable in the east end of the Valley especially in the Kentville and Canning districts. In 1912 a heavy outbreak occurred in Halifax with an accompanying slight outbreak in the Valley. During the summer of 1915 many larvae were noticed and in a few cases serious damage to the fruit resulted. Last season the pest was even more numerous and from this it would appear that we are at the beginning of another serious outbreak which will probably reach its maximum in 1917 or 1918.

(Continued on page 306)

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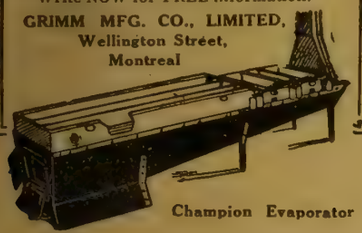

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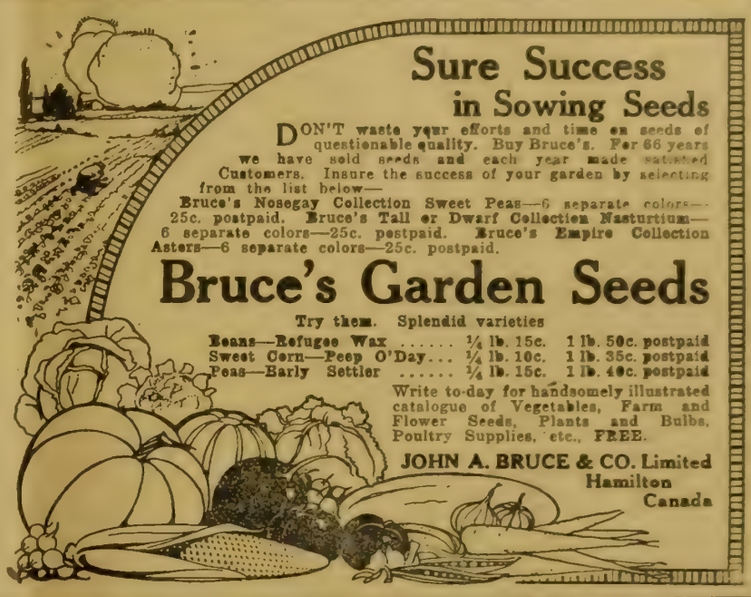

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DAIRYING.

ANNUAL MEETING CANADIAN AYRSHIRE BREEDERS' ASSOCIATION

The 46th Annual Meeting of the Canadian Ayrshire Breeder's Association, which was held in Montreal, Quebec, on February 14th, was the largest in the history of the Association, there being over two hundred members in attendance and from almost every Province.

The President, Mr. M. Ste. Marie of Compton, Que., gave a carefully prepared address, in which he expressed appreciation of the courtesy shown the members of his nationality, (Mr. Ste. Marie being of French descent), by electing him the Chief Officer one year ago. He referred to the progress made in 1916,—to the splendid results of the Advertising Campaign in giving the Ayrshire breed desired publicity; to the Dairy Standards Act of Ontario as progressive legislation, which when brought into effect will do away with "pooling" milk at cheeseries in that Province, and remedy an injustice, under which the patron who has supplied a high testing milk has labored; to the request that Oleomargarine be allowed to be brought in, made and sold in Canada which would be a great injustice to the dairy men and an injury to the dairy industry which was the basic one of the farmers of Canada. He advised breeders to exercise more care in their breeding operations, especially in the selection of good sires, and warned them against selling inferior animals for breeding purposes, better send them to the block.

The report of the Secretary, W. F. Stephen of Huntingdon, Que., showed marked progress in every line of work. He said advancement in 1916 had been made under difficulties such as never before experienced. Shortage of labor anl increased cost of production being the chief obstacles, but these have been met and overcome with a spirit of determination that could only bring success.

This speaks well for the enterprise of our breeders during this most awful war, in which our Country and Empire are so heavily involved. For over thirty months the conflict has raged with all the diabolical forms of modern warfare. Still it rages with intense fury, and the end is not yet in sight.

Our Empire has taken her part well in the titanic struggle for the liberty and freedom of the smaller nations as well as for the individual.

Canada has seconded the efforts of the Motherland in such a manner that it has brought her to the forefront as a nation, and thus she now stands.

Nearly four hundred thousand of our most brilliant and capable young men have left the farm, the shop and the office for our Empire's cause. Many will never return having stained the soil of Flanders and France with their blood and laid down their lives in their Country's cause—a noble sacrifice—that this splendid heritage may be ours, and not the enemy's, to exploit.

The war has effected the dairy industry most peculiarly. So great has been the demand for dairy products, caused by war conditions that the price of butter and cheese has soared beyond the conception of the most optimistic dairyman. The price of milk was never higher, to my knowledge. With all, there is less profit to the dairyman, as labor, cows and feeds have likewise reached the highest level, and in comparison with dairy products have made a greater per cent of a rise.

The Ayrshires have proved to be in the PROFITABLE class as their records testify. The productive proclivities, together with the many other excellent qualities of the Ayrshire is bringing her more into prominence. These other excellent qualities may be termed her GOOD FORM, the uniformly HIGH QUALITY of her milk, her PERSISTANT milk flow, and ECONOMICAL production.

There was marked progress in every line of our Association work during 1916. A feature worth noting was the number of new men who started in the Ayrshire business during the year.

The membership was 1365, an increase of 168, as follows:—Quebec 658, Ontario 394, Alberta 76, Nova Scotia 56, New Brunswick 41, Manitoba 36, Saskatchewan 34, Prince Edward Island 29, British Columbia 26, and the United States 14.

There were 6041 registrations, 4000 pedigrees, and 1976 transfers quite an increase over 1915.

In the Record of Performance test there were 708 entries, an increase of 101 and 197 registrations, making a total of 879 cows and heifers qualified in this test to December 31st, last.

To the same date 46 bulls have qualified with four or more progeny.

The Secretary pointed to the fact that the past eight months had been unfavourable to record work owing to the high price of milk feeds. Also, that record work was doing much to develop the breed, as breeders were paying more attention to systematic breeding and feeding with a view to increase size and production.

He pointed to the successful work of the Clubs and to their possibilities for increasing community interest in the breed.

He also referred to the success of their advertising campaign and stated that Ayrshire men had been remiss in not giving their breed more publicity through the press, by articles, and illustrations.

The financial statement showed cash on hand, January 1st, 1916, to have been $6226.38, receipts $10955.-04. The expenditure was $10797.94, leaving a balance on hand of $6383.40. There was received from registrations $7962.03 and members fees $2324.00. The chief items of expenditure was for printing, $3854.11, salaries, Secretary and office help $1700. Salaries, Record Office $1001.56. Advertising, 1069.81, and grants to Exhibitions and Dairy Tests $1540.

The report of the Silver Cup Competition showed the following to be the winners:—In the Mature Class "Lady Jane"—30886—owned by A. S. Turner & Son of Ryckman's Corners, Ont., came first with 18,405 lbs. milk and 786 lbs. fat, and scored 23,535 points. "Lady Jane" breaks all Canadian Records in the Ayrshire world for milk and fat production. She is also a Winter Fair Dairy Test winner.

In the Four Year Old Class "Milkmaid of Orkney"—39834—owned by Harmon MacPherson, Copetown, Ont., won with 14,883 lbs. milk, 596 lbs. fat and scored 14,121 points. This heifer makes a new butter fat record by an increase of six pounds.

In the Three Year Old Class "Scotch Thistle"—41685—owned by A. S. Turner & Son, secures the cup. She gave 14,905 lbs. milk and 631 lbs. fat, and scored 16,779 points. This heifer breaks all previous records in her class by 847 lbs. milk and 97 lbs. fat.

In the Two Year Old Class, "Lenore 2nd"—38514—owned by Harmon MacPherson, made 12,052 lbs. milk and 524 lbs. fat, and scored 13,646 points. This heifer breaks the record of fat in

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YES—if properly fed for the first three weeks and put on the safe road to health and vigor.
Pratts BABY CHICK FOOD
is a Baby Food for Baby Chicks—largely predigested. Contains all the elements needed to build up healthy, sturdy chicks. Feed it from the time of hatching. Nothing else is necessary for the first three weeks, except drinking water, grit and a small amount of grain in the litter to induce exercise. The cost is trifling—only 1c. per chick for the entire period. Get it at your Dealer's. 25c. pkgs., and larger money-saving sizes up to 100-lb. sacks at $6.00.
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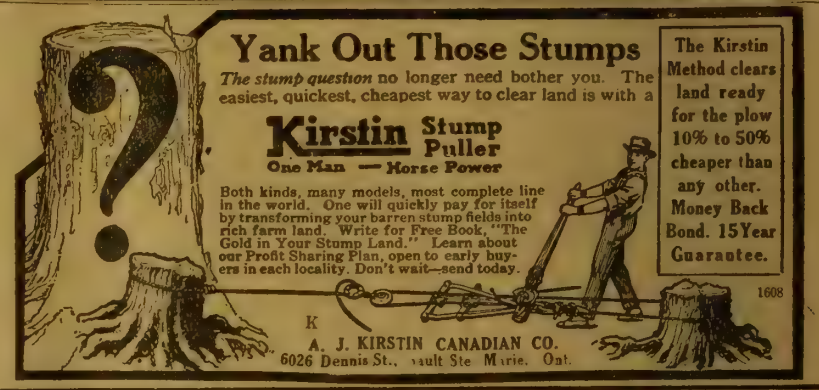
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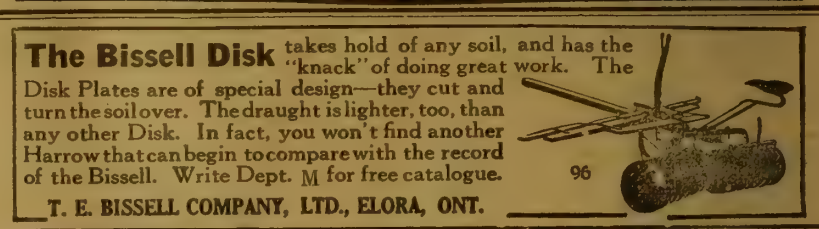
The Bissell Disk takes hold of any soil, and has the "knack" of doing great work. The Disk Plates are of special design—they cut and turn the soil over. The draught is lighter, too, than any other Disk. In fact, you won't find another Harrow that can begin to compare with the record of the Bissell. Write Dept. M for free catalogue.
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I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

The Salt is mighty important

Windsor Dairy Salt

THE CANADIAN SALT CO. LIMITED.

BANKS TAKE MANY OF OUR BOYS AND GIRLS

Our records show a decided increase in the percentage of young men and women graduates of the Moncton Business College who are finding successful employment in Banking institutions.

Aside from the fact that such positions are very desirable, it is particularly pleasing to note that it carries with it very gratifying endorsement of our instructions. Banking is a highly specialized business and necessitates exact knowledge of accounting principles.

And it speaks well for the caliber of our students.

Moncton Business College,
Moncton, N. B.
G. J. Schmidt, Principal.

Back to Nature

For "common ills that flesh is heir to", old Mother Nature gives us the cure in her simple, healing herbs. When the Liver gets sluggish—when the Blood becomes laden with impurities—and that miserable dragged-out feeling comes over one—then it's time to go back to Nature for the remedy and take

Dr. Wilson's HERBINE BITTERS

This reliable tonic and blood purifier contains the curative principles of Dandelion, Mandrake, Burdock and other medicinal herbs that clean, purify and enrich the blood and build up the whole system.

25c. a bottle. Family size, five times as large, $1. At most stores. 25

The Brayley Drug Co., Limited, St. John, N.B.

Minard's Liniment Co., Limited.

Gentlemen,—My daughter, 13 yrs. old, was thrown from a sleigh and injured her elbow so badly it remained stiff and very painful for three years. Four bottles of MINARD'S LINIMENT completely cured her and she has not been troubled for two years.

Yours truly,
J. B. LIVESQUE.

St. Joseph, P. O., 18th Aug., 1900.

her class by nearly four pounds.

More interest than usual has centered in this competition and some large records were made.

While the meeting was in Session a statement was received from the Chief Officer of the R. O. P. that Grandview Rose—37030—owned by Shannon Bros., Cloverdale, B. C. completed her years test on January 31st last with 21423 lbs. milk and 890 lbs. fat, equal to 1036 lbs. butter. This cow is due to freshen in April.

The Secretary referred to the possibilities of the Ayrshire breed in Western Canada, stating that the Western Provinces were developing the dairy industry with rapidity and that in 1916 two carloads of choice butter was shipped to Montreal and Great Britain. Also that Alberta made butter was displacing in British Columbia, that from New Zealand. To bring the Ayrshire into more prominence in the Western Provinces it was decided to do some advertising in Western papers particularly, and a Committee was appointed for the purpose of dealing with this question.

The following resolutions were passed:—

Resolution re Dairy Standards Act

Whereas, at the Session of the Ontario Legislation, held in 1916, an act was unanimously passed called the "Dairy Standards Act", which requires, that on and after April 1st, 1917, all milk delivered to factories be paid for on the basis of its butter fat content.

That, whereas, the Canadian Ayrshire Breeders' Association, with its 400 or more members in Ontaria, heartily approves of such progressive legislation, believing it to be in the best interests of the great dairy industry of that Province, and without doubt, if carried into effect would raise the standard of the dairy products of that Province in the markets of the world.

That, whereas, we have learned that there is a possibility that the coming into effect of this act may be deferred from the primary date fixed.

Therefore, we the Canadian Ayrshire Breeders' Association in Annual Session assembled, respectfully urge the Ontario Government to delay not the putting into effect of this act and thus discontinue the injustice of the present pooling system, and that copies of this resolution be forwarded to Premier Hearst and Commission Creelman.

A resolution was also passed asking that the governments of the various Provinces, where similar legislation does not exist that they pass a law requiring that all milk delivered to factories or delivered to cities be paid for on the basis of its butter fat content.

Resolution re "Oleomargarine".

That, whereas, we have learned with regret, that pressure is being brought to bear on the Federal Government to pass legislation, so as to allow the manufacture and sale of oleomargarine in Canada.

That, whereas, were such legislation passed and its manufacture and sale allowed, that it would be a gross injustice to our dairy farmers, and a serious injury to the dairy industry.

That, whereas, there has been little or no call for oleomargarine, by the consumers, but that the request comes largely from vested interests for the purpose of making larger profits.

That, whereas, the enforcing of the oleomargarine law in the United States is a continual source of trouble and expense. That whereas if such legislation were enacted in Canada the same difficulties would be introduced, and the door would be opened to fraud, and oleomargarine would be palmed off on the innocent as butter and at butter prices.

Therefore, we the Canadian Ayrshire Breeders' Association in Annual Session assembled respectfully urge the Federal Government not to introduce legislation that will allow the manufacture or sale of oleomargarine or any fake products in Canada, and that a copy of this resolution be forwarded to Hon. Martin Burrell, Minister of Agriculture, and to the leading papers in Canada.

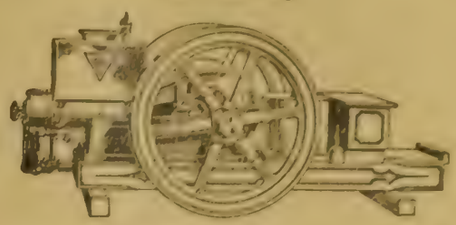
Resolution re Diplomas

That, whereas we find that the res-

(Continued on page 309)

ALPHA

The Best Gas Engine to Buy



WHEN selecting a gas engine, the most important thing is to get a good engine. There is no economy in buying an engine that is going to require frequent repairs and that is likely to balk just at the time you need most to use it.

The wise man considers service, reliability and durability first, and price second. Selected on this basis, the ALPHA is the logical engine to choose, because it is the simplest and most durable in construction and the most reliable in operation. It runs smoothly and powerfully on a minimum consumption of either gasoline or kerosene, and operates on a simple magneto without the use of any batteries.

It is so simple that a woman or a boy can start and operate it, and the sensitive governor, which acts the instant there is the slightest variation in the load, insures steady running without any waste of fuel.

Before you put any money into a gas engine, investigate the ALPHA—and remember that the man who buys the best is never sorry.

Ask for catalogue, prices and complete information. Made in seven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank-cooled cylinder.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogues of any of our lines mailed upon request

MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 Branches and Local Agencies the World Over

Supplying the Demand for Royal Purple Calf Meal

This baby food for young animals is partially pre-digested, and can be fed to the youngest animals with perfect safety. It WILL NOT cause stomach or bowel trouble, which are serious ailments in young animals. Royal Purple is a sure preventive for scouring.

Calves Gain Rapidly Without Milk

When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark:

Mr. Geo. W Collins, Plainfield Ont., writes

"Gentlemen.—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: Uxbridge, Aug. 5th

This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist, Mr. T. C. Nicholls, of Uxbridge and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried. I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves."—Stanley W. Croxall.

Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle, and is an excellent authority on Calf Foods.

Royal Purple Calf Meal is equally good for young colts, lambs and young pigs. Put up in 25-lb., 50-lb. and 100-lb. bags. Secure it from our dealer in your town.

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Send for our 80-page book which describes the common diseases of stock and poultry; also methods of feeding and our many products. Get a copy to-day.

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WRITE TODAY FOR YOUR COPY
of the most complete treatise ever printed on the reclamation of stump lands with mechanical appliances. SENT FREE with special introductory offer. W. Smith Grubber Co., Dept. 54, LaCrescent, Minn.

LIVE STOCK.

PROPER CARE OF PREGNANT ANIMALS ON THE STOCK FARM AT PERIOD OF PARTURITION

During certain seasons of the year the veterinary surgeon in districts where large herds prevail are very busy answering calls for help from farmers whose stock go wrong at the period of parturition. That this is a very critical time with most breeders, and that the wise farmer should give increased attention to the flocks and herds at this time will be readily conceded, but, at the same time, that much of the difficulty met with can be avoided is proven from the fact that some of the largest and most successful breeders seldom find it necessary to call in the aid of a professional practitioner.

The only way to overcome the difficulty successfully or to reduce the loss to a minimum is to be prepared to act promptly in the case of an emergency, and adopt well known preventive measures.

With this end in view the stockman should provide himself with a good reference book or two on common diseases of farm animals and study the symptoms, causes and treatment of them. Next, he should obtain such surgical instruments as are needed in the treatment of these diseases. He should have, for instance, a trochar and canula to use in case of a serious attack of bloating; he should have a good metal or hard rubber syringe for cleaning out wounds or sores of any kind with antiseptics; a piece of rubber hose six feet long is useful sometimes in case of choking or to relieve stomach gas; an injector for flushing out the womb, which may either be a pump for that purpose, or a piece of half inch rubber hose four feet long with a funnel at one end, into which to pour the germicide. This should always be used where the afterbirth has been retained or there is any abnormal discharge from the vulva. Rubber hose should be kept in the dark and straight. If coiled up, when not in use it will be useless for the purpose mentioned. A piece of gas-pipe is a good thing to keep it in. Cork both ends to keep out the light, and lay it flat on the floor. Ten or twelve feet of quarter inch rope and the same of three-eighth inch should be kept in the medicine cupboard ready for cases of emergency in case of difficult parturition. There should always be a good strong bottle or two on hand for the administering of medicine; a humbug for holding the cow's head in position, a nose ring for hogs and a good halter for horses. There should also be a few medicines kept on hand. There is not always time to go to town for a supply in an urgent case and anyway there will be much time saved by having a supply right at hand when needed. The following is a useful list, which may be added to or diminished according to the receipts used for various purposes. Sweet spirits of nitre, tincture of laudanum, Fleming's tincture of aconite, raw linseed oil, Epsom salts, bitter aloes, common soda and ginger, and carbolic acid, zenoleum or creoline for disinfecting and to use as a germicide in cleaning sores, etc.

However desirable it may be however to prepare for cases of emergency, it is very much better in every way, as far as possible to avoid sickness and accidents in the herds and flocks, which is usually the result of four or more causes:

First, indiscretion in the use of food stuffs or feeding. Too great emphasis cannot be laid on the subject of proper feeding or domestic animals. If one goes wrong in this department of farm economics, no matter how well other departments are managed, very indifferent success must attend all his activities, for constitutional weakness and disease are sure to follow any carelessness in balancing and proportioning the food supply of the farm. In order to bring the pregnant animal up to the period of parturition in a good healthy condition, so as to withstand the trying experiences of reproduction, the individual physiological needs of the case, for that particular time must be studied be it mare, cow, ewe or sow. To this end nourishing food should be given, food that will not only build up the strength of the dam, but that will also develop the foetus to a normal size and condition. Furthermore, such food should be of a somewhat succulent character as contrasted with dry food that is likely to produce constipation and result in a feverish and unhealthy condition of the digestive tract and general debility of the whole system. Abundance of pure water should be supplied, without which the best available food supply cannot perform its natural function and produce the desired results.

In the second place, the lack of suitable housing is a frequent cause of disaster. In nature the young arrive at the most opportune time of the year; when the weather is warm, the food supply abundant and of the best possible quality; but under domestic treatment all these favorable conditions are usually absent, therefore the need of great care and the exercise of good judgment in this important matter.

The maternal instinct of the female at this critical time is to seek solitude, where she may be away from all animals and other disturbing influences. The fact should be noted in making provision for them in the stable or other place of confinement. A roomy box stall, in a quiet part of the building is usually best, where the attendant can occasionally, unnoticed, observe that no abnormal conditions are present and where any trouble presenting itself may be best overcome. In addition to this proper conditions of temperature, ventilation and other features making for the comfort and contentment of the patient should be observed. One of these irritating and exciting means is frequently found in the farm dog, which should not be allowed near at this critical time.

The next and third source of danger is shiftlessness or lack of care and sanitation. All animals, and particularly those of a highly developed organism, should receive a good deal of extra attention at this time, and indifference on the part of the attendant may easily mean the loss of the animal, her young, or both. This is more noticeable with the mare than other farm stock. When the act of foaling begins, under normal conditions, delivery of the foetus is speedily accomplished, hence the need of prompt measures where any trouble is manifest, and any carelessness or indifference is frequently atoned for in the loss of foal if not the dam also. With the cow speed is less important in the beginning, but subsequently quite as dangerous if attention is not given when needed. The care of the female at this time should include such matters as proper cleaning of pens, stalls, etc., the use of disinfectants and germicides and all matters of sanitation that are in any way liable to affect the health of the individual.

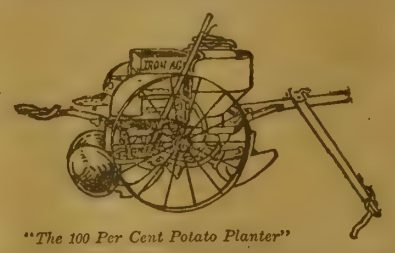
The fourth source of danger referred to is careless or vicious handling of animals when in a pregnant condition. This sort of thing is never excusable at any time; but at this

Don't Waste the "Golden Nuggets"!

Make every seed-piece count, yet make sure of a full stand. This boy will help you do 100% potato planting, with no doubles and no misses. He will save you 1 to 2 bushels per acre—some say a barrel. He earns his way many times over. You can't afford to do without him. Use the seed-saving

IRON AGE Potato Planter

It plants as fast as the team can walk, spaces the seed evenly and at uniform depth. Has no pickers—nothing to cut or bruise the seed. Spreads the fertilizer and thoroughly mixes it with the soil so that it can not injure the seed. Can be had in two styles with or without fertilizer attachments and with choice of furrow openers.



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Write today for booklet fully describing this 100% Potato Planter. We also make a full line of potato spraying, cultivating and garden tools.

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Flattering to the Original

But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.

This is a facsimile of the package bearing portrait and signature of A. W. Chase, M.D.

The greatest strength of the world's best wheat is in the bread baked from

PURITY FLOUR

"MORE BREAD AND BETTER BREAD"

Big Profit in Potatoes

1917 potatoes will undoubtedly command high prices. Buy a

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now. The Eureka line is the largest made. Three sizes, one or two rows, with or without fertilizer attachment. Used successfully for 18 years. Operated by one man, meaning less trouble and expense. Opens furrow, drops seed any distance or depth, puts on fertilizer (if desired), covers up and marks next row, all automatically. Driver sees seed drop. Does not injure seed.

Ask for catalog of Potato Cutters, Sprayers and Potato Diggers—the Eureka Line of Potato Machinery.

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FROST & WOOD CO., Ltd., St. John, N. B.

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particular time is senseless in the extreme. One of these foolish practices is frequently seen in allowing dogs to run such stocks; another, driving them rapidly over slippery surfaces, such as ice or slippery cement floors, causing them to fall or in other ways to result in the misplacement of the foetus; and still another striking them with a heavy stick or club which has been known to kill the young before born. Crowding into doorways, although not intentionally vicious, is nevertheless careless and results in loss. In fact, there is scarcely any end to the many ways that females may be injured and serious loss entailed by neglect to observe common sense treatment and rules of conduct in the care and management of the farm stock.

Still another matter of great importance is that of exercise. It is a well known fact by breeders that animals kept in too close confinement do not bring forth their offspring in a strong state of constitution and that both themselves and their young are more liable to accident or disease than where reasonable exercise has been taken. There are good physiological reasons for this which it will be well for every stockman or any other man for that matter to look up, if not already advised of the fact.

As already intimated, precaution among these lines will reduce the possibility of loss to a minimum so far as the treatment of the animal is concerned; but still further additional precaution may be taken by the stockman in having someone on hand at frequent intervals to look after the interests of the patient. Of course this is a tedious matter at night, but may often save a valuable animal from destruction; if no better plan is adopted, at least, a visit to the patient late in the evening can be managed by one member of the family and early in the morning by another. In extreme cases, however, surely no one will object to a visit once or twice, at least, during the night.

In the stock-raising business precautionary measures are always to be greatly preferred to subsequent treatment and if this principle be carried out before, at the time, and after the parturition of domestic animals on the farm, there will be few regrets on account of losses and the increased revenues will immeasurably overbalance any that do occur. O. V. J.

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We have begun our 50th year with every prospect of it being the best yet. Students can enter at any time.

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The St. John Business College — S. KERR Principal

THE WINTER TERM
of the
Fredericton Business College
will open on
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Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

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PROFITABLE BEEF PRODUCTION
Experimental Farms Note

At the Experimental Farm at Nappan, N. S., a number of tests have been carried on in feeding and finishing steers for the market. During the last three years tests have been carried on in feeding good butchers, heavy fed, versus good butchers, light fed; good stockers, heavy fed, versus good stockers, light fed; good butchers, heavy fed, versus good stockers, heavy fed; good butchers, light fed, versus good stockers, light fed; and good butchers and good stockers, heavy fed, receiving two pounds molasses in addition to their regular meal ration, versus good butchers and good stockers, heavy fed, no molasses; and good butchers and good stockers, light fed, receiving two pounds molasses in addition to their regular meal ration versus good butchers and good stockers, light fed, no malosses.

The results of the first test, that is, good butchers, heavy fed, versus good butchers, light fed, are as follows,—Eight steers were selected in such a condition that they could be classed as good butchers. These were dehorned and fed a preparatory ration to get them accustomed to their feed and surroundings; then divided into two lots of four each. The four heavy fed received 50 per cent more roots and meal than did the light fed. Number of days fed, 93; total live weight at beginning for Lot 1, heavy fed, 4478 pounds; at finish 5355, an increase of 877 pounds. For Lot 2, light fed, 4413 pounds at beginning; at finish 5135, an increase of 717 pounds. The original purchase price was 6¼ cents per pound, live weight. The selling price was 8.1 cents per pound, live weight. The gross profit for Lot 1 was $153.88; for Lot 2, $139.81. The total cost of feed for period was, for Lot 1, $99.16; for Lot 2 $75.29, leaving a net profit in the first instance of $54.72, or a profit per steer of $13.68. In the second $64.62, or a profit per steer of $16.13. The average profit per steer, for three years, over and above the actual cost of feed at market prices was for Lot 1 $18.38, for Lot 2 $22.39. The cost to produce 1 pound gain was 10.33 cents for Lot 1 and 8.64 cents per pound for Lot 2. The ration fed to Lot 1 at the beginning was 60 pounds roots, 6 pounds meal, and 1 pound molasses; at the finish 45 pounds roots, 16.5 pounds meal and 2 pounds molasses. Lot 2 received, at the beginning, 40 pound roots, 4 pounds meal and 1 pound molasses; at the finish 30 pounds foots, 11 pounds meal and 2 pounds molasses.

From the above results it will be noted that a profitable limit can be reached in the amount of feed fed to good butchers and that in all our feeding work we should be guided accordingly. That is to say, feed liberally and well, but not to excess and good profits can be made by producing the right kind of beef.

(The results of other tests will be given in following articles.)

MAGIC BAKING POWDER
Magic Baking Powder costs no more than the ordinary kinds. For economy, buy the one pound tins.
MADE IN CANADA
E.W.GILLETT COMPANY LIMITED
MAGIC BAKING POWDER

Extremely Severe

Dyspepsia

Halifax (N.S.) Sergeant in the C.E.F. Cured Completely by Dr. Cassell's Tablets.

SERGEANT DUNCAN MacNEIL, of the **CANADIAN EXPEDITIONARY FORCE,** writing from Europe (his home address is **116, PLEASANT STREET, HALIFAX, N.S.**) says:—

"For six years I suffered from frequent attacks of Dyspepsia, each attack being more acute than the last. During one of these attacks life would become almost unbearable, and I would have to regulate my diet to liquid foods only, often being in bed for days at a time. I was under the care of a Physician, and tried all the remedies on the market, spending a small fortune, but obtained little or no relief. I became utterly discouraged, and had almost given up all hope of Cure.

Sgt. MacNeil.

"When the war broke out I joined the Expeditionary Force and came to England. I had not been long here, however, when my old trouble returned, and I had to go to hospital. While in hospital a friend told me of Dr. Cassell's Tablets and I decided to try them. The first box brought such pronounced relief that I continued the treatment. In about four months I was completely cured. I was effected.

"Since taking Dr. Cassell's Tablets I have been through hardships beyond human endurance, but not once has my old trouble returned to bother me."

The above is the frank, clear testimony of a Canadian soldier. He has been cured of extremely severe dyspepsia, which even the healthful life of the training ground could not overcome, and he wishes to tell others that he owes that cure to Dr. Cassell's Tablets.

Dr. Cassell's Tablets

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On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

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Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
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Specially valuable for nursing mothers and during the Critical Periods of life.

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New staple and felt reinforcing device makes hooks stay on longer. Ask your dealer for Tapatco booklet. Shows pads in colors and contains many valuable horse remedies. If he hasn't it, ask him to write us direct.

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THE HORSE

HEIGHTS AND WEIGHTS OF DRAFT HORSES

Those who write to breeders who advertise draft horses commonly ask questions about the size of the animals. It is natural for a prospective purchaser to desire information of that sort before expending time and money on a trip to see the horses. He wants to be reasonably sure he will find what he seeks. And yet the inquiries frequently reveal ignorance as to essential indication of size. The simple request for weights is often made, but it never brings valuable information if answered without qualifications. Those who have ever fattened draft horses know that a very thin horse may actually add 50 percent to his weight while fattening.

Height is the best single standard of size in horses. Mule men have horsemen beaten far in this matter of classing according to size. In some of the old-country shows draft stallions and mares have their classes subdivided according to height. The shape which belongs to draft type is fairly well understood by horsemen. If a horse is described as 16 hands high and of well-proportioned draft build a man knows about what kind of horse is meant. Then a statement as to being fat or thin gives an idea also as to weight, or a statement of weight gives an idea as to the amount of flesh carried.

Horsemen know, for example, that a well-proportioned draft horse 16 hands high and weighing 1,400 pounds is thin, and weighing 1,800 pounds he is fat. If he only weighs 1,200 pounds he is very thin. If he weighs a ton he is either overloaded with fat or else is rather lower-set than the best standards of showrings and markets. The best horses that weigh a ton or more stand 16:2 to 17:2 hands at the withers and some of the largest horses are a full 18 hands high and still are well proportioned. Some of these bear down 2,400 pounds and even more on the scales.

Careful draft horse judges can bt seen making a mental note of the height of showring candidates, as they are deciding how they will place them. The measurement of height prevents any confusion as to size that might arise because of variation in light or level of ground on which the animal is standing, or contract with horses of different size in the same class. It provides an absolute and unvarying standard. A good horseman standing a few feet from a horse can tell almost to an inch what the height is. The handiest men at this trick are the ones whose own heights are 5'8", 5'10" and 6'. Their eyes are usually at 16 hands, 16:2 and 17 hands, respectively, and so they can readily note the distance of the withers above or below the level of their eyes. A measuring stick is clumsy to carry and manipulate and it is seldom at hand when wanted, but a horseman always has his eyes with him—and he needs to have them wide open.—Breeder's Gazette.

PUREBRED HORSES EXCLUSIVELY

Some draft horse breeders make it the invariable rule to keep nothing but pedigree horses on their farms. They are the exception, it is true, but they set a commendable example. If some purebreds are desirable to have, all purebreds should be still better. The purebred horse that cannot work is not fit to keep. There hangs the argument at the start. Most of the grade draft brood mares in this country are regular farm workers. The purebred mares are usually even better individuals in appearance, so they ought to be superior in harness. If they are not of more than average utility we do not want them.

Most of the shielding and pampering of pedigree mares arises from the owner's desire to protect his rather large investment from the risk of injury, overwork or interference with breeding. But idleness is bad for the mare. She is more liable to be injured running in the pasture than quietly working in the field; she can do just as much work as a grade mare of the same size and quality, and there is abundant evidence that work mares breed as regularly as any others. The general experience is that they produce stronger foals than idle mares. In winter the mare has considerably better conditions when she works regularly than when she runs along slippery paths in the pasture or fights with others for a share of whatever shelter is provided.

Usually not all the mares will be pregnant and so any extra heavy work can be done by those which have skipped breeding. When all the horses on a farm are registered mares the visitor is always favorably impressed. There is then no intimation that the pedigree animals are expensive "white elephants." They prove that they pay their way. They show that they are the right sort to produce other horses that can work as well as breed. With all the horses registered there is no suggestion that careless pedigree record work on the farm might result in a grade being sold as a purebred. It looks better, at least. Just for appearance alone it is worth while to emphasize registered horses to the limit.

ITCH IN HORSE MAY BE ERYSIPELAS

I have a mare eight years of age that has very itchy spots around her head, neck and belly. The hair falls off in patches, and when she scratches there is small red spots. It appeared about two years ago and went off, and now it has broke out worse and I cannot find anything to stop it. What do you think this disease it, and what will cure it? C. K.

It is very difficult to diagnose a case like this from a written description. It seems to me to be a form of erysipelas. It may be superficial and only involve the upper layers of the skin, or it may be deeper seated and involve the under layers. It is contagious to a small degree, and this is the reason it is spreading to other horses. It is common to some districts and usually follows wounds, injuries and sores, but comes on apparently healthy skin. Zero weather and filthy stables is bad for giving rise to this trouble in horses, and damp, hot weather in summer without the necessary cleaning and grooming.

Make up an alterative compound of Epsom salts 4 ozs., nitrate of potash 2 ozs., and linseed meal 4 ozs.; mix. Give a tablespoonful twice a day in a soft feed. Mix 1 ounce of sugar of lead in 1 pint of water and keep the parts wet with this solution. If the irritation spreads in spite of this treatment, paint the healthy skin for two inches all around the diseased part with tincture of iodine and change the lotion to 1 ounce tincture muriate of iron in 8 ounces of water. You should persist to get rid of this disease.

SHOE BOILS OR CAPPED ELBOWS ON HORSES

Shoe boil is the general name given to a bunch or swelling on the elbow, caused by the shoe pressing against it while the horse is lying down At first shoe boils are bruises, hot and sore, sometimes developing

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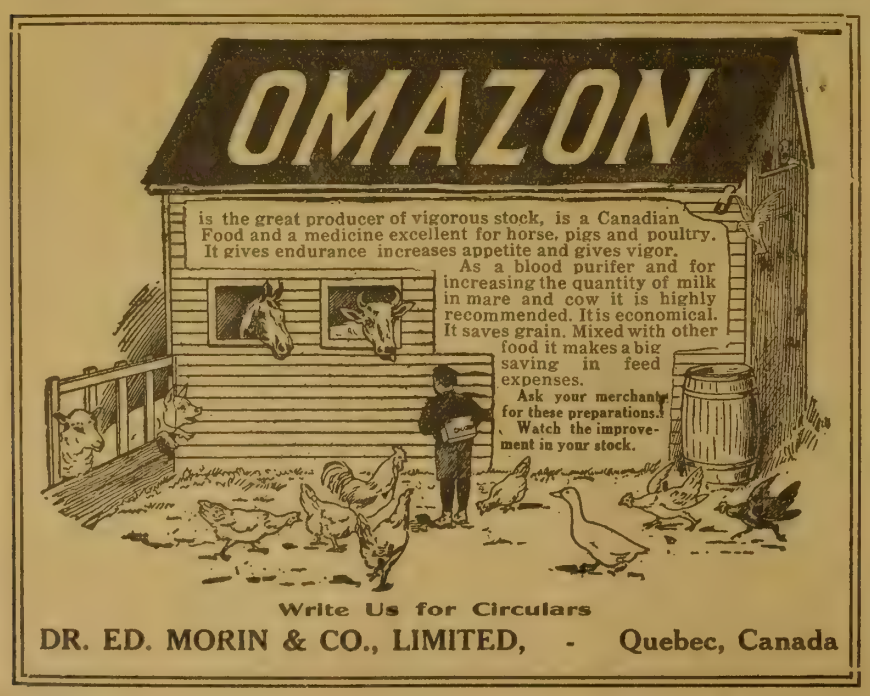
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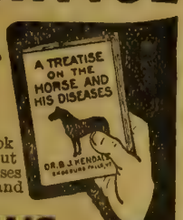

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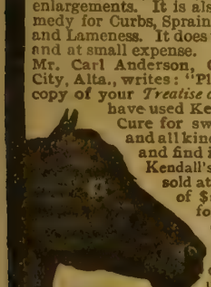
is a safe and reliable remedy. It will cure Ringbone, Splint, and other bony enlargements. It is also a reliable remedy for Curbs, Sprains, Bruises, Cuts and Lameness. It does the work safely and at small expense.

Mr. Carl Anderson, Grand Prairie City, Alta., writes: "Please send me a copy of your *Treatise on the Horse*. I have used Kendall's Spavin Cure for swellings, galls, and all kinds of lameness, and find it a success."

Kendall's Spavin Cure is sold at a uniform price of $1.00 a bottle, 6 for $5.00. If you cannot get it or our free book at your local druggist's write us



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SELDOM SEE

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE
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will clean it off without laying the horse up. No blister, no hair gone. Concentrated—only a few drops required at an application. $2 per bottle delivered. Describe your case for special instructions and Book 8 K free. ABSORBINE, JR., antiseptic liniment for mankind. Reduces Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, Old Sores. Allays Pain. Price $1 and $2 a bottle at druggists or delivered. Manufactured only by

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pus and breaking or have to be opened, occasionally laming the horse and making trouble generally. If neglected they usually develop into a hard, gristly bunch of varying size, and at this stage are a permanent blemish unless completely cut out with the knife. Occasionally the hard lump is the result of only a slight but continued irritation without apparent soreness or pain, but finally growing into a shoe boil just the same.

Horses with roomy stalls and plenty of bedding do not often have shoe boils. The horse in the narrow stall where there is no chance to lie on his side comfortably is the one that of necessity tucks his feet under him while down to rest, and thus makes shoe boils. Many visits to city stables show that horses in cramped quarters with scarce bedding are the ones that present the most capped elbows.

Preventives—where liberal stall room and bedding are out of the question—are limited to shortening the inside of the shoe and buckling around the hoof some sort of a pad or shield to keep off the pressure.

Horses do not lie on their feet and make shoe boils from choice. Give them room and bedding and shoe boils will be the least of their troubles.

THE SIZES OF DRAFT FILLIES

Accurate weights and measurements of Percheron fillies at different ages are given by Prof. J. L. Edmonds in Bulletin 192 of the Illinois experiment station, Urbana. These fillies are of the Percheron pattern and of the most commonly accepted draft proportions for youngsters of their ages, so the figures are instructive.

The fillies whose firstrecorded measurements were made at 5 to 6½ months old were then 13:1¼ to 13:1¾ hands high and weighed 685 to 775 pounds. The fillies that were 7 to 8 months old at the outset of the test were 13:0¾ to 14:0½ hands high and weighed 810 to 970 pounds. Most of the fillies were then in moderate flesh.

At one year old the heights varied from 14:0¼ to 15:0¼ hands and the weights ranged from 1,035 to 1,260 pounds. The smallest in height was the lightest in weight and the tallest was the heaviest. At 2 years old the heights varied from 15:1 to 16:0½ hands and the weights from 1,425 to 1,775 pounds. At that age one of the lighter fillies had stretched up to a trifle more height than the heaviest filly, showing an individual difference in the manner of maturing. The amount of growth in height between 12 and 24 months old varied from 3½ to 5¾ inches, and the average for the 10 head was 4½ inches.

At one year old the average height was 14:2¼ hands and the average weight 1,112 pounds. At 2 years the average height was 15:2¾ hands and the average weight 1,548 pounds. These standards may fairly be considered reliable for well-fed and well-bred Percheron fillies. If a breeder's youngsters fall behind these figures they are not doing as well as they should.—Breeder's Gazette.

A THREE-HOUR DAY FOR THE HORSES

The horse has a three-hour day, according to a Minnesota investigation carried on under the direction of Thomas Cooper, now the director of the North Dakota Experiment Station. It was found that a farm horse averaged about 100 hours labor per year or about three hours per day. It was also found that the cost of maintenance for the horse was $85.00 per year. This emphasizes the need of keeping brood mares and raising colts, so as to get more returns from the work horses than the three hours of labor per day.

RENNIE'S FARM GARDEN
Pure--New Seeds

Improved Beefsteak Tomato (enormous size). Pkg. 10c, ½ oz. 35c, oz. 60c.
Copenhagen Market Cabbage (high class early). Pkg. 10c, ½ oz. 40c, oz. 75c.
Improved Breakfast Radish (crisp). Pkg. 5c, oz. 10c, 4 ozs. 30c.
Wardwell's Kidney Wax Beans (market sort). 4 oz. 15c, lb. 55c, 5 lbs. $2.40.
Best Snowball Cauliflower. Pkgs. 15c, 25c, ¼ oz. 85c, ½ oz. $1.50.
XXX Golden Self-Blanching Celery. Pkg. 25c, ¼ oz. 75c, ½ oz. $1.40.
Ringleader Sweet Table Corn (ready in 60 days). Pkg. 10c, lb. 35c, 5 lbs. $1.50.
Cool and Crisp Cucumber (bears all season). Pkg. 5c, oz. 15c, 4 ozs. 40c.
New York Lettuce (immense solid heads). Pkg. 10c, oz. 25c, 4 ozs. 70c.
Market-Maker Golden Globe Onion (big cropper). Pkg. 5c, oz. 25c, lb. $2.10.
Yellow Onion Setts (select Canadian). Lb. 35c, 5 lbs. $1.70.
XXX Earliest Table Marrow Peas. 4 ozs. 15c, lb. 40c, 5 lbs. $1.90.
Jumbo Sugar Beet (for stock feed). 4 ozs. 15c, ½ lb. 25c, lb. 45c, 5 lbs. $2.20.
Perfection Mammoth Red Mangel (very large). ½ lb. 25c, lb. 45c, 5 lbs. $2.20.
Canadian Gem Swede Turnip (good keeper). 4 ozs. 20c, ½ lb. 37c, lb. 70c, 5 lbs. $3.40.
Improved Greystone Turnip. 4 ozs. 15c, ½ lb. 27c, lb. 50c.
Thousand-Headed Kale (for green food). 4 ozs. 25c, ½ lb. 35c, lb. 60c, 5 lbs. $2.10.
High Grade Gold Nugget Yellow Flint Field Seed Corn. Bush. $3.35, 5 bush. $16.25.
High Grade Wisconsin No. 7 White Dent Seed Corn. Bush. $2.85, 5 bush. $13.75.
Select Irish White Seed Oats. Bus. $1.25, 10 bus. $12.00.
Seed Barley, O.A.C. "21" (six rowed). Bus. $1.80, 5 bus. $8.75

Seed Corn, Oats, Barley Prices do NOT include Freight Charges. Bags 30c each extra.

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HORSE STAGGERS AND IMPURE BLOOD

I have a four-year-old colt that staggers when he is let out of the stable; his hind part seems to swing round when walking. He seems to be lively enough and eats well. B. M.

From the description given it would appear that your animal is suffering from stomach staggers and that his blood is in bad order. Give him a dose of medicine as follows: Six drachms barbadoes aloes and one pint raw linseed oil mixed. Take his grain feed away for a few days and feed sparingly. Very likely you can note that his urine is dark and coffee colored, and for this three ounces of spirits of nitre in a little water should be given him. Also give him flaxseed tea, lots of it, to drink; if he will not drink it, drench him with it liberally. Always avoid gorging horses with too much food when not working as this is the chief cause for the symptoms you describe in your horse. O. V. T.

Why do some farmers make three times as much profit as others on the same amount of capital and the same acreage? It is simply due to good farm management.

THREE VITAL QUESTIONS

Are you full of energy, vital force, and general good health? Do you know that good digestion is the foundation of good health; Pains and oppression in stomach and chest after eating, with constipation, headache dizziness, are sure signs of Indigestion. Mother Seigel's Syrup, the great herbal remedy and tonic, will cure you.

AFTER MEALS TAKE

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AND BANISH STOMACH TROUBLES

At all Druggists, or direct on receipt of price, 50c. and $1.00. The large bottle contains three times as much as the smaller. A. J. WHITE & Co. LIMITED, Craig Street West, Montreal.

Had Severe Cold
ON HER LUNGS.

RAISED PHLEGM AND BLOOD.

Never neglect what at first seems to be but a slight cold. You think perhaps you are strong enough to fight it off, but colds are not so easily fought off in this northern climate, and if they are not attended to at once will sooner or later develop into some serious lung trouble such as bronchitis, pneumonia, and perhaps that dreadful disease, consumption.

Miss Kasye McDonald, Sydney Mines, N.S., writes: "Last winter I contracted a severe cold, and it settled on my lungs. I would cough and raise phlegm and blood. I had the cough for a month, and had medicine from the doctor, but it did not seem to do me any good. I really thought I had consumption.

My friends advised me to use Dr. Wood's Norway Pine Syrup, which I did, and it gave me great relief. I am very glad I used 'Dr. Wood's,' and would recommend it to every one."

You can procure Dr. Wood's Norway Pine Syrup from any druggist or dealer, but be sure and get "Dr. Wood's," when you ask for it as there are a number of imitations on the market, which some dealers may try to palm off on you as the genuine.

See that it is put up in a yellow wrapper; three pine trees is the trade mark; price 25c. and 50c.

Manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

POULTRY.

THE EGG SITUATION

The year 1916 was one of unusual activity with respect to the Canadian egg trade, unprecedented high prices prevailing during the late spring, summer, and fall months. The direct cause of this was the unusual demand on the part of the British market for the Canadian product, in preference to supplies obtainable elsewhere.

General Review of 1916.

Owing to the relatively large shipments of Canadian eggs during the fall of 1915, Canadian storage holdings were not of sufficient quantity to supply the local demand, and the result was a considerable movement of United States eggs into Canada for a consumption during January, February and March. At first these imports consisted wholly of storage eggs, but even before the end of January considerable quantities of fresh-gathered United States eggs were being offered on the larger Eastern markets. These came, for the most part, from the Southern States of Oklahoma and Tennessee, and were offered as early as the 15th of January on the Toronto Produce Exchange at 36c, freight and duty paid. The market generally held firm throughout January, but, owing to the increasing receipts of fresh-gathered stock, declined rapidly throughout February and early March. Occasionally at times the lowering price had the effect of stimulating consumption, and this would be apparent in a slightly firmer tone, although the general tendency was downward from a price of about 30c the first week in February to 25 and 27c the latter part of the month, until the lowest price of the year was reached about the third week in March. The market took a very radically downward turn about the 9th of March. This was a direct reflection of the sharp reaction occurring on the Chicago market about that time.

During the two weeks following, a very uncertain market prevailed. The tendency of the trade is to buy at the lowest price possible, and sell at the highest. Generally, early in March, with the opening up of the storage season, the probable future storage sales price is the basis which regulates the price of eggs. The tendency in the States last spring, following the heavy production of the previous year, was to keep the price down to below 20c. The visit to Canada and the Eastern United States markets along this time, of representatives of the largest British importing houses, however, and the general feeling of confidence created by their presence, and prospective buying, gave the market a very buoyant feeling, and the result was that, while some endeavoured to keep the price down to its usual level, the general prospects for lucrative sale were so favourable that there caused the wildest scramble for eggs on the part of the trade generally that this country has ever seen.

The lateness of Easter week in 1916 also gave the market a firm tone at a time when it is generally weak. From a price of 20 to 21c in the last of March and the first of April, a steady advance took place throughout April and May, the price to producers advancing from 21 to 22c early in April to 25c the end of May throughout the Eastern markets generally. With the advent of hot weather, it was confidently expected that some reaction would take place, but the persistent export enquiry, and the generally favourable weather through June offset this, and prices continued steadily upward, and June eggs, and even early July eggs, were picked up quickly and placed in storage.

While the export movement of fresh-gathered eggs early in the spring was not large, several shipments aggregating from thirteen and fifteen hundred cases each went forward. and the price received was such as to further stiffen the market. In fact, during the latter part of June Canadian prices reached such a point that at least one car of fresh-gathered United States eggs were brought to Toronto for local consumption, and sold at a profit.

Despite the hot weather of July, prices continued to advance, 26 to 27½c being the prevailing quotation. Receipts of eggs continued large, many local points, in fact, reporting an increase over the previous year, but, on the other hand, however, local consumption was higher than ever before. In fact, one is safe in stating that the per capita consumption of eggs in Canada during 1916 was very much increased over previous years. This was due, without doubt, to the high price of meats and other animal food products, and the fact that, in many of the smaller villages and rural districts, it was practically impossible to get good fresh meat at any price during the hot weather. Another instance of this was evident in the Western Provinces this fall, when the meat ration of the majority of the threshing gangs consisted largely of eggs.

Fortunately for Canada, no attempt was made to move many Canadian eggs to the Old Country during the hot weather. Some went forward as late as the second week in July, but those that were shipped between that time and the first of September were largely United States eggs repacked in Canada. For the most these arrived in bad shape and the direct result has been that Canadian eggs have, for the last four or five months, been quoted on the British market at from five to ten cents a dozen above the United States product.

The heavy movement of Canadian eggs for export commenced about the last week in August, and gradually increased from a few thousand dozen per week until the maximum was reached during the last two weeks of October and the nomth of November. The exports for that time ran from eight hundred thousand to a million and a half dozen per week from the Port of Montreal alone.

Accurate information is not yet available as to the exact proportion of Canadian and United States eggs that went forward. It is common knowledge, however, that hundreds of cars of United States eggs were shipped which would undoubtedly have been Canadian product had the eggs been available in this country.

The export prices received were very high, ranging from a contract price of 33 or 34c for early fall shipments to as high as 42c, and even higher, for later shipments, and the general verdict with respect to the quality of the Canadian product has been very favourable indeed.

The large percentage of the Canadian holdings exported, and the

WARNING! NEPONSET Paroid ROOFING

ITS popularity all over Canada has made "Paroid" a household word. Do not accept inferior grades of roofing as "the same thing as Paroid"—

There is only ONE PAROID —this is the Roll

The Genuine Bears This Label

The surface is GREY. We also make it with an extra wearing surface of crushed slate, RED and GREEN—all permanent colors.

When you use the genuine Paroid, you can forget about your roof for many, many years. Paroid roofs in service now for over 19 years are still giving excellent satisfaction.

Look for "Paroid" on every roll you buy

Hardware and lumber dealers who sell Neponset products will give you good satisfaction.

BIRD & SON Dept. M HAMILTON, ONT.

Warehouses: Winnipeg, Calgary, Vancouver, Montreal, St. John, Edmonton.

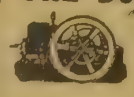
For Homes: Neponset Twin Shingles

Also manufacturers of Neponset Wall Board.

The largest manufacturers of Roofings, Wall Boards and Roofing Felts in Canada. 120

GILSON

THE DOMINANT ENGINE



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GILSON MFG. CO. Ltd. 276 York St. Guelph, Ont.

27

Kill Your Farm and Garden Pests

LARVAECIDE Will Do This Surely—Quickly

Destroys Wire Worms, Slugs, Cabbage Worm, Cabbage Maggot, Onion Maggot, Potato Bugs, Cut Worms, Leather Jacket, Centepedes, White Grubs.

LARVAECIDE IS NOT AN EXPERIMENT—IT IS A PROVED ANTI-GRUB AGENT.

It must be thoroughly mixed in the soil.—Must not come in contact with growing plants.

SCORES OF UNSOLICITED TESTIMONIALS

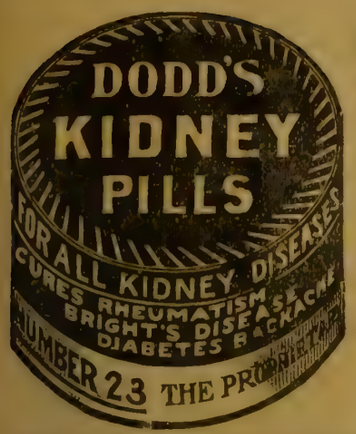
Not only will Larvaecide destroy insect pests but it will positively prevent club foot. So says Mr. Geo. Newcombe of Hopewill Hill.

Larvaecide is for sale by leading dealers everywhere in the Maritime Provinces.

For Booklet and full particulars write

LARVAECIDE MANUFACTURING COMPANY

Head Office 102 Prince William St., St. John, N. B.



phenomenal home demand for eggs had the effect of reducing the stocks in Canadian storage houses to a point far below the minimum usually held toward the latter part of the year. This condition, combined with the slackness of current receipts, owing to the lateness of the pullets of 1916, has had the result of giving Canada unprecedented winter prices this year, as high as a dollar a dozen being asked and paid for guaranteed new-laid eggs on some of the larger Eastern markets.

Conditions with respect to production improved a little during Christmas week and the first week in January of this year, but the continued cold weather since has given production somewhat of a setback. Although mild conditions have prevailed generally throughout the Southern States, their production this year is not nearly as large as last, and the result is that the market generally in Canada continues firm, with the possible exception of British Columbia, where receipts of California eggs have brought the price down to about 45c.

Outlook for 1917.

Naturally, following such a season and the fact that the export demand still continues, the outlook for 1917 is particularly favourable. Of course, the continuation of high prices is more or less contingent upon the conclusion of the war but, even so, it is not expected that in the matter of live stock and live stock products any serious reaction will occur and that any falling off occuring in prices will be gradual.

Canada has the market but is short on the supply. The subsequent development of the poultry industry in this country largely depends upon the reputation established now on the export market. While there is no doubt need for improvement in the quality and in the uniformity of the product going forward, the great need is for the production of such a quantity of the quality desired, that Canada's place on the British market will be assured. To have every reason to believe that the necessary safeguards with regard to the quality of the product going forward will be perfected this year. Our future market is assured, therefore, if we will but increase our production to the extent necessary to hold that market. Canada's liabilities are not going to be met by the production of a minimum amount sold at a maximum price, but rather by the production of the mixamum amount sold at a renumerative price; in other words, the development of a volume of business. The great need, therefore, is for increased production during 1917.

The present prospects with respect to the accomplishment of this end are not the best, however. While undoubtedly the unloading of large quantities of poultry on the market last year owing to the scarcity of feed and other causes has resulted in a cleaning out and cleaning up of poultry flocks generally throughout the country that will ultimately be a blessing in disguise, yet the fact remains that there is not in the country today the number of laying stock that there was one year ago. It is out of the question, of course, to attempt to increase the poultry population of this country very materially between now and the season of high production. However, if every farmer and poultry producer will but exert himself or herself to get the highest possible production from what poultry they have, the shortage in the actual number of birds kept may be overcome to some extent and the Canadian trade may therefore indicate to the British importers that Canada will this year be able to supply as much at least to the Motherland as she did during 1916. Further, if those who have charge of the poultry use the same acumen, judgment and good management in the slection of their breeding stock this spring, the keeping of their poultry houses free of lice and mites and the providing of clean and sanitary quarters for their stock as they did in the culling from their flocks, the mongrel, nondescript and aged stock last fall, production throughout the spring and summer season may even be increased over that of last year.

Now is the time, therefore, to lay the foundation for greater and bigger developments for 1918 and 1919. Generally speaking, throughout the country there is a better sentiment prevailing on the part of farmers generally with respect to the poultry business than ever before, and, with the high prices prevailing for both eggs and poultry, there is reason to believe that there will be this year a much larger distribution of purebred, day-old chicks and eggs for hatching than ever before.

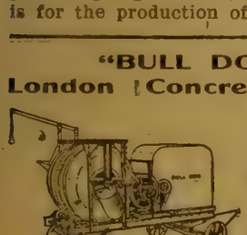
Canada has all the requisites for the production of a quantity far in excess of her own requirements, and with her favourable climatic conditions can, with proper care and attention, produce quality equal to the best in the world. Only the fringe of production possibilities has been touched up to the present. The Western Provinces, with their volumes of cheap feed, are the natural home for the Canadian hen. The bulk of the surplus at the present time comes from the provinces of Ontario and Prince Edward Island. Nova Scotia, New Brunswick, and Quebec do not produce sufficient for their own requirement. They must do more; and will. It remains principally for Ontario, Prince Edward Island and the Western Provinces of Manitoba, Saskatchewan and Alberta to demonstrate to Canada and the Empire as a whole what they can do in this connection in this great hour of trade expansion.

According to the last ceusus, Canada had some 29,000,000 hens; a few more, in fact, than the single state of Iowa. There may be possibly forty or fifty million hens in Canada at the present time. In order to meet our obligations and live up to our opportunities in the matter, the slogan of every poultryman should be,—"150,000,000 hens for Canada in two years." How can it be done? It is not possible in this country to create in the minds of producers generally the steadfast impression and belief that this development is going to be brought about, and to enlist the active services of every breeder and distributor of purebred poultry in a great big national production campaign?

Clearly, the opportunity lies before us. The task which Canada has set before her and which must be met, if from no other than economic reasons alone, demands the steadfast attention of statesmen and laymen alike. We must keep the home fires burning

(Continued on page 306)

"BULL DOG"
London Concrete Mixer



Capacity 50 cu. yards per day. Price $325.00 complete with gasoline engine. Pays for itself in 20 days' use. Built to last a life time. Send for catalog No. 1 B.

LONDON CONCRETE MACHINERY CO.,
Dept. E, London, Ontario
World's Largest Manufacturers of Concrete Machinery

America's Pioneer Dog Remedies

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

On the Job Laying
Though Snowed In

Under the most severe weather conditions, you will get plenty of eggs if your hens are properly housed and fed Royal Purple Poultry Specific as directed.

Jno. Cutting, Orpringe, Ont., writes as follows:

"Dear Sirs,—Kindly send me your free booklet on Stock and Poultry. I have used your Poultry Specific all winter, and I would not want to be without it. For fattening chickens, and making hens lay it can't be beaten. I have also used the Stock Specific, and find it as represented."

Royal Purple Poultry Specific

In summer, fowl get grain, herbs, grass and insects, which are Nature's assistants for producing eggs. In the winter and spring, fowl get practically the same grain, but must have a substitute for the herbs, insects. Royal Purple Poultry Specific, manufactured from Roots, Herbs, Minerals, etc., is a most perfect substitute, increases the egg production at once, and makes the hens lay as well in winter as summer—keeps the fowl active, vigorous and healthy—prevents chicken cholera and kindred diseases.

Sold in 25 and 50c. packages, also $1.50 and $5.00 air-tight tins. We also manufacture Lice Killer, 25 and 50c. packages; Roupe Cure, 25c.; Disinfectant, 25c., 50c., $1 sizes.

Secure these products from our dealer in your town.

W. A. Jenkins Mfg. Co., Limited
London, Canada
34

FREE BOOK

Write for FREE 80-page booklet describing all common diseases of stock and poultry. It tells how to build henhouses and how to raise calves without milk

Secure More Pails of Milk From Your Herd

Royal Purple will increase the flow of milk from 3 to 5 lbs. a day if used according to directions. Mr. Norman C. Charlton, Scott, Sask., states:

"I am from Ontario and fed your Royal Purple Stock Specific when in Brownsville. My cows made the largest average and tested 5 pounds over average at C. M. P., Brownsville. I believe you make the best conditioner on the market."

Royal Purple Stock Specific

The great farm animal conditioner and fattener is used in almost every progressive stock-raiser's stable in Canada. Good for all stock in a run-down condition. Can be used occasionally or continually without showing bad after-effects. Royal Purple Stock Specific is purely a digester and blood purifier. It aids digestion to such an extent as to produce the very best results, and obtain the maximum amount of good from the food eaten. It will enable you to fatten your steers and hogs a month earlier, thereby saving a month's feed and labor.

Mr. Malcolm Gray, of Komoka, states:

"In regard to the feeding of Royal Purple Stock Specific, I had two lots of hogs. To the first lot I fed Royal Purple Stock Specific, and when I sold them they averaged 196 lbs. each. On the second lot I did not use Royal Purple Stock Specific, and at the same age they averaged only 150 lbs. each. They were both the same breed and one lot had as good a chance as the other. We have also fed Royal Purple Poultry Specific with excellent results."

Royal Purple Stock Specific is put up in 50c. packages and large $1.50 and $5.00 tins. Secure our products from our dealer in your town. Write for free booklet on how to treat all common diseases of stock and poultry. Tells how to build hen houses and how to raise calves without milk.

W. A. Jenkins Mfg. Co., Ltd.
London - Canada 36

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

SHE JUST KEEPS HOUSE FOR ME.

Jean Blewett.

She is so winsome and so wise
She sways us at her will,
And oft the question will arise,
What mission does she fill?
And so I say with pride untold,
And love beyond degree,
This woman with the heart of gold,
She just keeps house for me—
For me,—
She just keeps house for me.

A full content dwells in her face,
She's quite in love with life,
And for a title, wears with grace
The sweet, old-fashioned 'Wife';
And so I say with pride untold,
And love beyond degree,
This woman with the heart of gold,
She just keeps house for me—
For me,—
She just keeps house for me.

What though I toil from morn till night,
What though I weary grow,
A spring of love and dear delight
Doth ever softly flow;
And so I say with pride untold,
And love beyond degree,
This woman with the heart of gold,
She just keeps house for me.

Our children climb upon her knee
And lie upon her breast,
And ah! her mission seems to me
The highest and the best;
And so I say with pride untold,
And love beyond degree,
This woman with the heart of gold,
She just keeps house for me.

THRIFT.

By permission of the writer, Miss M. V. Powell, Whitby, Ontario.

Thrift to-day means preparedness. The women of Canada have responded beyond all expectation to the emergency call made to them since the declaration of war. To-day, another call echoes through our fair Canada—a call that can only be responded to by the co-operation of every woman in our country, under the capable management of the women of Canada, the natural home-makers and educators of the youth of to-day as mothers, can the save and serve policy of Thrift be successful.

The great war is depleting our land of many of the strongest, most vigorous of our citizens, and the development, physical and mental, depends very largely upon the work of the women in the home, involving as it does, the importance of food in relation to human welfare which is great.

Miss Watson expresses her clear vision of the situation as follows:—"The daughters of Canada should not be sent to homes of their own without the training necessary for intelligent buying, and satisfactory preparation. They should either receive it at home or be sent to school and given opportunity to learn it before marriage." Thus armed we will avoid waste, husband and conserve our resources, and prove that we are as capable to assist in the building of a greater Canada as in patriotic work for the men at the front.

Economy in the home and the preparation of nutritious food at small cost is women's work, and far more vital to national welfare than the question of a career for women.

There is food enough in flesh and vegetable wasted in Canada every year to feed every hungry mouth if conserved and saved. It has been said that more is wasted in a Canadian home in one week than would keep a French family for two weeks.

Waste nothing, buy nothing from abroad that can be produced at home.

To-day, as we stand face to face with our national duty, and look into the future, we realize that if we are to face the future with any degree of preparedness, our duty is to eliminate waste in human things as well as in food stuffs.

To make every human being capable of discharging his or her responsibility to the fullest capacity, "the wise woman looketh well to the ways of her household—and eateth not the bread of idleness." Our national business is to eliminate waste in human beings and to make each human being capable of making good.

These ends can be reached by the best training of childhood, in the homes and in the school. As homemakers we must make not mar the success of our future men and women—the youth of our land.

We are the builders of their character, their ideals of personal and civic duty, so that our opportunity today invites our best effort for home and Canada by honest thrift of all our talent and power. We are still a young nation and on us depends the ability of the nation to compete successfully with the world as a nation: ours the hands to mould and build for our nation's best welfare.

In the greater Canada towards which we are moving with breathless speed, the womanhood of our land is being driven with unresisting force. With every important and vital interest of the nation, woman's power and influence will be identified. She is not only being forced by national conditions into the national life, but she is being qualified to meet these conditions with intelligence and power. At the present moment of national struggle the great cry is for conservation of our forces in every avenue of life. Especially is there being urged a campaign for thrift and economy. For years past the trend of our country has been towards waste and extravagance. We have been recklessly squandering our means, indulging our desires, gratifying our wishes, in pleasures, luxuries and speculations. Now we are being brought to a realization of our recklessness, and with that knowledge is born the desire to place our nation upon a firmer foundation.

In the great campaign for thrift women are powerful and influential factors. If we are to meet with any degree of efficiency the strain and drain upon our resources, we must eliminate waste from our lives. We can be of invaluable service to our country by eliminating waste in human life. On every hand we see valuable human life and energy wasted.

The proportion of preventable death in childhood is far greater than should be, and is a serious drain upon the national life. Women can render most efficient aid in reducing the death rate of children, by establishing classes for instruction in health and hygiene among the poor, teaching the children the proper care of the body, studying the food values and nutrition of foods, giving practical demonstrations in preparation of simple nourishing dishes for different seasons of the year, and employing preventive means in dealing with disease, thereby preserving a high standard of health in thise who survive, as well as lowering to a noticeable degree the loss of human life.

That the world should have wholesome meals at reasonable cost is of vital importance to the welfare of the nation.

The usefulness, efficiency and happiness of the individual depends largely on health. While Sir Thomas White is calling to the men of Canada to develop natural resources by products, by food stuffs, while he calls to every man in Canada to produce all he can, to work doubly hard while our soldiers are in the trenches. in order that the resources of the country may not only be conserved but increased for the great struggle that lies before us; that the people of Canada preserve their credit and keep the nation strong by increasing production and exercising reasonable care we call to the women of Canada to help by thrift; we who are so capable to "save and serve."

We would pay tribute to our late Dr. C. C. James, whose passing so suddenly from our midst has been so keenly felt; and in so doing, we would place on record the valuable aid he has left to the people of Canada in the practical help given to us along thrift and production lines. Especially helpful has he been to the women of Canada, as in his statement, "I do not know any way whereby an individual can save money and have it for investment except by the old-fashioned mode of living within his income and saving his profits to the extent that he can. I do not think there is any magic method. The way for Canada to become a lending country is for Canada to produce all she can, and to save what she can."

The pioneer mothers of Canada realized this, and to them is due in a large measure the prosperity of our land to-day, and the bravery of our sons at the front; and now that the building of a greater Canada awaits our best effort, the women of Canada must respond in the same way if they would make good, and leave to the coming generations a cultivated, civilized country, governed by honor, justice and liberty. One thing is, of course, needful if the requisite measures are to succeed, that each shall sink his personal interests unreservedly in the common weal to-day. This is indeed a difficult task for women, but we have all got to live. It is not a question of money at all, but of bread, meat and potatoes.

All our standards of life are changing. The nation must go back to the simple life, to the less luxurious method of our ancesters, henceforth the citizens of this country will have to pull together.

There never was a time when the need was greater for economy in domestic expenditure, nor a time when there was a greater need for knowledge regarding food values, and the preparation of nutritious food at small cost.

This is essentially woman's work, thus to women has been given an important work in the affairs of life. The usefulness, happiness and efficiency of the individual depend largely upon health which is so governed to a great extent by the suitability of food

The great restorative of Strength—

Wilson's INVALIDS' PORT
(à la Quina du Pérou)

Absolutely no Alcohol is added. 13

BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
Box 309 WINDSOR, Ontario

HUSBAND SAVED HIS WIFE

Stopped Most Terrible Suffering by Getting Her Lydia E. Pinkham's Vegetable Compound.

Denison, Texas. — "After my little girl was born two years ago I began suffering with female trouble and could hardly do my work. I was very nervous but just kept dragging on until last summer when I got where I could not do my work. I would have a chill every day and hot flashes and dizzy spells and my head would almost burst. I got where I was almost a walking skeleton and life was a burden to me until one day my husband's stepsister told my husband if he did not do something for me I would not last long and told him to get your medicine. So he got Lydia E. Pinkham's Vegetable Compound for me, and after taking the first three doses I began to improve. I continued its use, and I have never had any female trouble since. I feel that I owe my life to you and your remedies. They did for me what doctors could not do and I will always praise it wherever I go."—Mrs. G. O. LOWERY, 419 W. Monterey Street, Denison, Texas.

If you are suffering from any form of female ills, get a bottle of Lydia E. Pinkham's Vegetable Compound, and commence the treatment without delay.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, *before they pay for them*, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it.

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes six minutes.

State whatever you prefer a washer to operate by Hand-Engine Power-Water or Electric Motor. Our "1900" is very complete and cannot be fully described in a single booklet.

Address me personally, S. D., Morris, Mgr., Nineteen Hundred Washer Co., 357 Yonge St., Toronto, Ont. (Factory: 79-81 Portland St., Toronto.)

and its proper preparation.

We hear to-day the statement—"The way to success is to get the women interested." And we say that women can help to build up Canadian industries while the war is still on by remembering CANADA first, the EMPIRE next, let our trade follow the FLAG and purchase goods at home, demand Canadian products, for not only must everyone pull as a nation, we all must pull together.

If our people continue to be economical it is possible that Canada will have a favorable balance after the war is over; but much, very much, depends on how we, the women of our fair Dominion, husband our resources. Let us save and serve during these anxious days when our brave men are at the front. Thus we, too, can do our duty and help on a general "Thrift Campaign" by careful dispensation of supplies, food, clothing and luxuries which seem to have become to us necessities.

Only when we realize that we are the trustees of our own incomes and sink self in the building up of a greater Canada will useless extravagances be abandoned. Let us be so busy that we will have no time to think of inconvenience, and by the simplest, easiest and most comfortable modes of living have time for high thinking and helpfulness to our country, resolved that by a steadfast purpose we will help to secure freedom and justice as the heritage for our children. Thus the women of to-day will leave to coming generations a heritage worthy of the effort and sacrifice. We will not know defeat, for by care and attention to our home-making we will win for ourselves a reputation not surpassed by early settlers for thrift in the hour when our nation requires our best; as one woman let us work. Here is our opportunity to show we are worthy of the confidence placed in us. Therefore do not waste materials; spend your money wisely. Every penny saved will help Canada to finance the war and win, and help us to make good in the greater Canada after the war.

The call for "Thrift" has gone forth everywhere. Let us respond to the call, quickly, quietly.

The children of our country are its greatest asset. They are our future men and women. Morally and physically let us study their needs and with careful economy supply all needs.

Such a call may never come to us again, and so we say respond to the call quickly and quietly.

You who have men at the front should not live in greater luxury than before your husband or son enlisted You should do your part. The country needs your unselfish patriotism nnd help.

The women of France have given us an example of what can be done by thrift and resourcefulness.

b. ?'fs1s etaoin shrdlu cmfwyp eta

The women of Canada scarcely know the rudiments of economy. Let us spend wisely, secure value for our money.

The physical necessities of life we would classify as Shelter, Food, Clothing.

Thrift means a system under which all can thrive.

Be brave! Men must fight, but this is not the time for women to weep. We must be a strong, united force, joining hands to save and serve, while we sympathize, and renew hope of the future of a greater Canada, and while the women are doing their "bit" in the home they are at the same time making their best preparation for other duties that await them; for they must take their places in the life outside the home, and there respond to the call for economy and thrift in matters of interest to all. The School Boards and Municipal Council will demand the careful judgment of the women who make a success of their home. The community call will require to be responded to by preparedness. Thus to the women of Canada will come many problems after the war which thrift alone will aid in solving, whether civic, Provincial or national.

PEERLESS
PERFECTION
No matter how fast it comes, the most unruly animal can't break through a *Peerless Perfection Farm Fence*—it springs back into shape.
Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped running the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.
Don't buy a rod of fencing until you get our illustrated Catalog. Describes our big line of farm, poultry and ornamental fencing. Also Peerless farm gates.
Agencies almost everywhere. Agents wanted in all unassigned territory.
The Banwell-Hoxie Wire Fence Company, Ltd.,
Winnipeg, Man. Hamilton, Ont.
PEERLESS FENCE

BIG NEW SCHOLAR'S COMPANION

14 Splendid Premiums Given Away

BOYS! Look at the picture; see what you get—not one, but 14 PREMIUMS:—1, Beautiful, lacquered Japanese Pencil Box, 2, Set of Water Color Paints; 3, Drawing Compass; 4, Hardwood Ruler; 5, Ink and Pencil Eraser; 6 & 7 Lead Pencils with Rubber Ends; 8, Penholder; 9, Wonderful Fountain Nib; 10, Folding Metal Drinking Cup; 11, 12 & 13 (for girls) A neat little Pocket Mirror, Fine Set of Jacks with Rubber Ball, in Bag, and a lovely Cameo Ring; or, 11, 12 & 13 (for boys) A 2-toned Whistle, Complete Rubber Printing Outfit, and a dandy 20-shot Repeating Pistol; and last, and best of all—for both boys and girls—14, A handsome brass-trimmed waterproof Fibre School Suit Case or Grip **GIRLS!**

—THE GRANDEST 14 PREMIUMS EVER GIVEN AWAY. NOT 1c TO PAY, just for selling only $4.00 worth of our great, big, colored War, Patriotic and Art Pictures at 15c each, or of lovely St. Patrick, Easter, War, Patriotic, Birthday, Floral, Lover and Comic Postcards, at 3 for 5c. One Agent sold 20 Pictures in 15 minutes; another sold $5.00 worth of postcards in 30 minutes. You can do as well! Now, HURRY; don't let anyone get around ahead of you. ORDER, sell, pay, and by RETURN MAIL, you will receive your 14 DANDY PREMIUMS POSTPAID. Be sure to say whether you wish pictures or cards. The Gold Medal Co., Dept. M F 63

City Hospital School of Nursing

Registered by the University of the State of New York.

Course, 2 years and 6 months, including 3 months preparatory term. Hospital bed capacity, 1,000, affording exceptional opportunities for study.

Minimum Requirements—One year of High School or equivalent.

Allowance—$10 per month first year, and $12 per month remainder of course. Uniforms are furnished.

Nurses' Residence—Most desirable location, homelike atmosphere.

For information address,

PRINCIPAL, City Hospital School of Nursing

Blackwell's Island, New York City

FREE to every Boy or Girl who will sell

36 of these beautiful Stick Pins at 10c. each, or 36 Popular Religious Medallions, or 36 packages Easter and Pictorial Post Cards, or 22 Patriotic Photo Frames, or 24 Handsome War Pictures. We will give the choice of a watch, camera, or perfumed jewel necklace.

DON'T SEND ANY MONEY

Just mail us your name and address and the choice of articles you can sell. We will mail you the goods, and when you do sell them to your friends in an hour or two, return us our $3.60 and receive by return mail any one of the premiums you may like.

ALSO if, when you have sold the goods, you send us the names and addresses of six of your friends, who will also sell our goods. As soon as they do, we will give you, without 1c. of cost, one of these real

MOVING PICTURE MACHINES

and a Box of FILMS

VOQUE NOVELTY COMPANY

702 Confoderation Life Building

TORONTO Desk K 5 ONTARIO

A KITCHEN IS CONVENIENT

1. When it is small.
2. When there is cross ventilation and not a draft either at the work-table or sink.
3. When there is light over the left shoulder at the work-table to prevent eye strain.
4. When the stove is a few feet from the work-table and allows the right hand to open the oven door easily.
5. When the working surfaces are even with the palm of the hand.
6. When the cold closet is built into the outer wall and the ice chest is within a few steps.
7. When shelves are narrow and open and when corners are rounded.
8. When there are two routes, the route for preparation and the route for cleansing and placing dishes.
9. When all stores are in glass or tin containers and clearly labelled.
10. When a kitchen cabinet and wheel tray are used.
11. When a corner is made in which to consult a cook-book at ease.
12. When harmonious colors and cleanliness create a feeling of rest and comfort.

COUNTRY LIFE MADE PLEASANT AND PROFITABLE

It is my object to show how country life may be made pleasant and profitable at the same time.

The farmer must prepare himself for his vocation in life as any other professional man prepares for his. It is only when we understand our subject in hand and have a knowledge of the best principles of that subject, that we can thoroughly enjoy it. Labor is made more pleasant by a knowledge of the best methods of performing it, and by applying methods much valuable time is saved which may be turned into profit. Education leads to method and system.

The farmer suffering from a lack of agricultural information wastes much time (undeveloped resource) debating "what to do next", and in ignorant experimenting with fertilizers and crop rotations, much expense and loss of time is incurred.

It will be plainly seen then, that one of the first necessities to a profitable and pleasant existence on the farm is an agricultural education, beginning with the earliest years at school, followed by a term at an agricultural college, and furthered by a careful observance of nature throughout life.

One of the pleasures of farm life is the close contact it makes possible with nature; probably no other vocation affords such a good opportunity as does farming to study nature in all her various forms. Here again is education necessary; Education helps to make a man quick and observant,—mindful of little,—without it his power of observance is dulled, and such a person would not be truly appreciative of the wonders of nature.

One of the greatest disadvantages under which many of our farmers labor is the lack of modern machinery and farm "hands." Both of these difficulties may be overcome if the farm is made to produce a surplus sufficient to buy the now necessary machinery. This will show the young man, if the farm is so fortunate as to have produced one, that there is something in farming and that the work does not consist of more drudgery. A new pleasure and pride instilled by the modern machinery will encourage the boys to stay on the farm, and if the boys remain in the country we may naturally suppose that a majority of the girls will be contented their also. This would help the country life socially.

Perhaps there is no other point from which our farm life suffers as in the lack of entertainment proved for its young people. Although there is much dignity and pleasure in work itself, yet no life would be complete and perfect without a certain amount of pleasure derived from other sources sandwiched in with that obtained by the love of labor. Country life would be made much more pleasant yes, and profitable too, if reading clubs and societies were given a higher place in the community life than is generally the case. All that is needed to make these clubs possible, is a few earnest and energetic workers to nurse them along during the first trying years of their existence.

How often do we hear our grandparents exclaim: "Oh! the good times we used to have at the husking and spinning bus", etc. It is deplorable that some such old fashioned entertainments are not still a feature of the country life. And as soon as they are once more given their rightful place, we will find the pleasures and profits of our country life greatly increased.

Many of our farmers do not realize the necessity of pure bred stock on the farms. To make our farms profitable one thing necessary is stock, but we want stock of good quality and suited to the district. Many do not realize that pure bred stock is more profitable than mongrels. Pure bred sheep have more and finer wool; pure bred cattle are marked by producing more milk and beef. It is just as easy to care for pure bred stock as mongrels, and returns from pure bred stock will yield a larger profit. There is a pleasure in the appearance of pure bred stock and poultry on the farms. Some of the farmers are not even familiar with the points of beef and dairy cattle. Upon the good management of the stock of the farm, much of the farmer's success depends; and it is satisfactory to know that that which promotes the comfort of the stock, also increases the profit they produce. Harsh and cruel treatment should be recognized as decreasing the profit which any animal will produce, because it is punishing to the stock. The suffering undergone by the animal involves a corresponding loss to the owner. Kind and careful treatment of stock, is one of the foundation stones of good and profitable management.

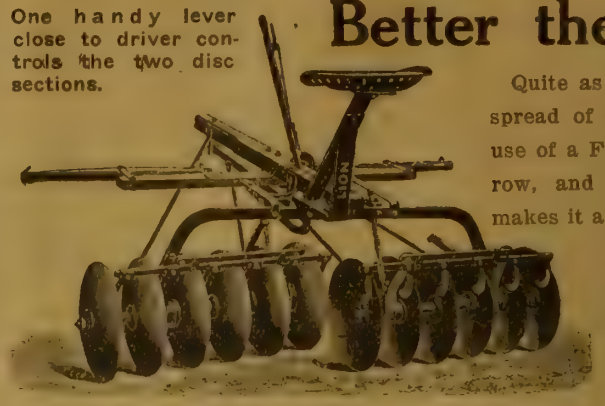
What has been said about stock will apply to seed cultivation. Farmers will plant the same seed year after year, till the kernels become shrunken and vitality lessened. If this grain is used for seed, and has vitality sufficient to germinate, the plant under ordinary conditions will be a weakling, and produce but small return. In this way fertilizer, seed, labor and time are wasted, and good taken from the soil. If these same expenditures were intelligently applied to the seed selection and the breeding, a large yield would be the result.

The practical farmer is a business man in the literal sense of the term. His aim is to live and prosper—to educate his family and to enjoy the blessings which come from being in close touch with nature.

"God made the country and man made the town,
What wonder, then, that health and virtues

The Finer the Mulch---the Better the Crop

One handy lever close to driver controls the two disc sections.



Quite as important as a spread of fertilizer is the use of a F & W Disc Harrow, and its light draft makes it a pleasure to use.

The value of a good seed bed cannot be over-stated. Take no chances THIS year.

Frost & Wood "Lion" Disc Harrow

A staunch in-throw Harrow; the two disc sections, held in place by an immensely strong main frame of steel, are run on highly polished, dust proof ball bearings, and the angle of their "cut" is controlled by one handy lever. The inside discs are kept into the soil by strong springs and driver's seat is well back so as to lessen neckweight on horses, meaning extra light draft. Two sizes, 12 and 14 discs.

SEE YOUR NEAREST FROST & WOOD DEALER

He'll gladly show you these splendid Harrows and other implements in the old reliable "F & W" line.

Work It Hard as You Please

Its light draft and staunch build enable you to tackle the roughest field.

Frost & Wood Champion Disc Harrow

Forecarriage makes work and turning easy

Two easily-operated levers, handy to driver, control the disc sections, so you can vary the "cut" of the discs very quickly to suit the ground. The disc sections run on splendid, ball bearings; and light draft is further helped by the discs being kept always clean and bright by scrapers, thrown in and out of use by convenient levers. Immense strength, and high quality materials, ensure few repairs and year-in-year-out readiness for work.

F & W guarantees and reputation are your ample safeguards.

THE FROST & WOOD CO., LTD.

TRURO ST. JOHN CHARLOTTETOWN

McLAUGHLIN CARRIAGES

are undoubtedly the highest grade Carriage ever put on the market by any manufacturers in Canada. Their policy—one grade only and that the best—is as firmly adhered to now as in the past.

We want Agents in all localities where the goods are not now sold. Perhaps you would like to act as our Agent.

If you would like to purchase one of our Carriages this season and there is no McLaughlin Agent near you, write to

H. A. AMOS, - - - Oxford, N. S.

General Agent for New Brunswick and Nova Scotia

Needed on every farm — Renfrew Standard — Thousands of users

A woman, signing herself "Farmer's Wife," and writing to the "Ohio Farmer" magazine, said:

"It is the cream check that pays the grocer and dressmaker, builds houses and barns, buys the piano, sends the children to college."

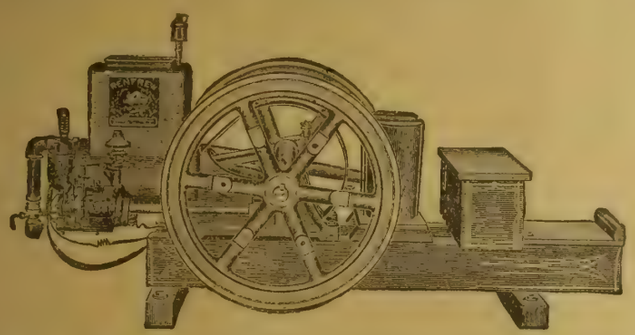
Verily, the cow and the cream separator seem to be given the place of honor on Ohio farms. And well they should, for what else returns so much profit per dollar invested?

An investment in more cows and better cows will pay almost every farmer—especially if he has a Standard Cream Separator to get the utmost possible cream profits for him.

Canadian Government Dairy School Reports show that the Standard Cream Seperator skims down to .01 per cent. In other words, the Standard loses but one-tenth of a pound of butter-fat in every one thousand pounds of milk skimmed. Do you know of any other cream separator that can furnish unbiased proofs of equally close skimming? Remember, it is one thing to claim close skimming and another thing to prove it to the hilt.

The Standard is not only a wonderful skimmer, it is also a sanitary skimmer. It is easy to keep its smooth, wide-open bowl and polished steel discs sweet and clean. There are no hard-to-get-at places where dirt and impurities can collect and taint the milk. Cream skimmed by the Standard taste sweet and delicious. It brings the highest price.

There are other features, such as automatic oiling, interchangeable capacity, patented guide pin, curved wing centre, helical tooth main gear, which we haven't the space to describe here in detail. But we will send our Separator Catalogue containing complete information. Write for a copy.



You Need One Greatly To-day

With farm labor so scarce and so high, every farmer needs a gasoline engine—in some cases two of them. And a Renfrew Standard will soon pay for itself. Just make a note on a piece of paper of all the ways it can save work for you. The length of the list will surprise you. Then send the list to us, and we will check it up and tell you other ways it can lift your burden. We will also send you our Engine Catalogue, which tells about the dual ignition, steam engine governor, starts without cranking, and other features of this famous engine.

Don't Guess. Weigh Everything

The only way to make sure you are getting paid for every pound you sell is to weigh everything—and this applies to what you buy, too. Scales are a necessity on every farm—and the Renfrew Truck Scale is the handiest for the purpose. Wheels around like a truck.

Weighs anything, small or large, from a pound to a ton. Government inspected and fully guaranteed. You cannot make any mistake buying one. Thousands in use weighing cream, produce, cattle, etc. Write for Scale Booklet.

THE RENFREW MACHINERY COMPANY, LIMITED,

Head Office and Works: RENFREW, ONT. **Eastern Branch: SUSSEX, N. B.**

AGENCIES ALMOST EVERYWHERE IN CANADA.

Gifts that can alone make sweet the bitter drought
That life holds out to all, should most abound,
And least be threatened in the field and groves."

Stella Blacklock.

A CLEAN MOUTH PROTECTS HEALTH

Do you wake with a bad taste in your mouth? Don't blame your liver. It is much more likely that your teeth are at fault—thirty-two to one, says Chas. H. Lerriga, D.D. Instead of taking liver pills, let the dentist see if there are any pockets of pus round your gums or decaying cavities in your molars. When he has done his best for you supplement his work with a toothbrush in the hands of your own most humble servant, being especially careful to practice a thorough sluicing of the ivories just at bedtime. Bad taste is divorced as long as you pay the nightly alimony.

Constantly we are discovering some new yet perfectly obvious thing about the human economy that it seems absurd ever to have overlooked. Discoveries about teeth are among the latest. An aching molar has always been an object of suspicion; but one that does not ache, performs its service of mastification in reasonable fashion, and looks respectably clean has always been reckoned a friends and defender.

Now we learn that a grinder of quite innocent appearance may yet be harboring enemies to our internal peace and quietness; that it may be giving shelter to organisms ready to corrupt the blood, disorganize digestion, and, penetrating the defences of far distant joints, give rise to the excruciating pains of rheumatism.

The great protection of the tooth from decay is its enamel. This is the hardest substance found in the human body, but if abused by such usage as biting hard candy or cracking nuts with the teeth it cracks and opens avenues for decay. While children should be warned against such abuse of their teeth this does not mean that they should eat only soft food. We believe that the mastication of food that requires vigorous chewing is very helpful to a child. It aids in the development of the dental arches, and the fact that prehistoric man excelled in the quality of his teeth may be ascribed to his coarse bill of fare.

There is no question whatever that every child past two years of age should be examined by a competent dentist at least once a year—better every six months. Given an opportunity at the very first sign of decay, the dentist can make his repair with so little pain that the child will be spared all nervous shock, and the expense of such treatment will be trifling.

It is especially important that a child's teeth be examined at the time that the first permanent tooth arrive, at five or six years of age. These are the keystones to the dental arch and it is quite important that they erupt properly and are not infected by decayed temporary teeth which may make contact with them. They develop in the lengthening jaw back of the temporary twenty, so they do not have any milk teeth to push out of the way. By the time the full permanent set is establish you should have twirty-two teeth; but since the third molars, commonly known as "wisdom teeth," do not come through the gum earlier than eighteen to twenty-five years of age, it very commonly happens that possession of the perfect number is prevented by early extraction.

(Continued on page 306)

Had Weak and Dizzy Spells.

WAS CURED BY

MILBURN'S

HEART AND NERVE PILLS.

Mrs. J. S. Nicholls, Listowel, Ont., writes: "I was weak and run down, my heart would palpitate, and I would take weak and dizzy spells. A friend advised me to take your Heart and Nerve Pills, so I started at once, and found that I felt much stronger, and my heart was ever so much better in a short time. I cannot praise your medicine too highly for it has done me a world of good. My husband has also been bothered with heart trouble ever since childhood, and finds quick relief by using your valuable pills."

Milburn's Heart and Nerve Pills have been on the market for the past twenty-five years, and are universally known as the very best remedy for all troubles arising from the heart or nerves.

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

TESTED RECIPES

Fudge Cake.

2 cups brown sugar, 2 eggs beaten separately, ½ cup melted butter, ½ cup milk, ½ teaspoon soda in the milk, ½ teaspoon cream of tartar, 2 cups flour, 2 tablespoons cocoa, 1 teaspoon soda in ½ cup boiling water.—Mrs. H. W. Estabrooks, Fredericton.

Hot Milk Cake

2 eggs beaten very light, 1 cup sugar, ½cup hot milk, 1 generous cup flour, 1 teaspoon baking powder, flavor with almond.—Mrs. H. W. Estabrooks, Fredericton.

Walnut Cake

1 cup sugar, ½ cup butter, 2 eggs, ¾ cup milk, 2 cup flour (pastry), 2 teaspoons baking powder.

VENO'S

THE WORLD'S BEST

For COUGHS and COLDS.

Veno's Lightning Cough Cure is the most popular remedy in the world for coughs and colds. People who once try it use it again; they tell their friends about Veno's and these friends tell other friends. Why? Because there is real curative power in Veno's Lightning Cough Cure; because it is quick and sure in action; because it contains no dope and is suitable for young or old, from infancy to extreme age; because it cures as nothing ever cured before. Prices 30 cents and 60 cents, from druggists and stores throughout aCnada.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

The Seed-Producing Capabilities of the Province of New Brunswick---An Unexploited Field

A more general and complete appreciation of the opportunities open for development in the agricultural industry of the province of New Brunswick could not but be cognizant of the suitability of her climate to the production of high-class tubers and seeds of cereals, to such an extent that a specific seed trade in these might be established, while seeds of Timothy, Red Clover and Turnips could be profitably produced in such quantities as would meet the home demand.

It is an authentic fact that northern-grown seed possesses a high degree of vitality, high absolute weight and is specially vigorous. These facts taken together with the varied possibilities of production from the numerous types of soil within our province should commend to the agricultural community a recognization as an agricultural asset the suitability of our climate to a development of this as yet unexploited field in seed production.

Home-grown or regionally produced seed of almost any variety of farm seeds acquire a vigorousness, whether due to natural selection aided through the grower by which only the vigorous are perpetuated, or to an acclimitization, by which plants become better adapted, which conduces to hardiness and increased yielding power greater than that possessed by imported seed. There are other phases also worthy of consideration when home-production of seeds is being discussed; namely, there can be no introduction of foreign weed seeds, dependence upon foreign seed supplies and markets is removed and a home industry fostered which may become of such proportions as to favorably affect the commercial trade-balance in seeds.

The office of the seed commissioner has done a great deal to stimulate the home-production of root and vegetable seeds in Canada, by offering a subvention to growers to encourage their production. Last year, subvention exceeding $1300 was paid on 36,300 lbs. of such seeds. The portion of this bonus requested by New Brunswick growers was negligible however. Subvention to ten provincial seed exhibitions in the winter of 1914-15 amounted to $4,251.

A very small proportion of the seed supply of field-roots, vegetables, clover and timothy used in this province is home-grown and, except to this small extent, we are dependent upon outside markets. During the past year however the production of home-grown Red Clover used has assumed considerable proportions, over three hundred bushels having been threshed up to the end of December by the Clover Huller, operated by the Provincial Department of Agriculture. It is estimated that the total production for the province will be about 1000 bushels. There is some difficulty in properly preparing this seed for market, as few of the fanning-mills owned by farmers are equipped with proper screens.

As an approximation, the quantities of seeds used in the production of the following crops in this province each year are about as follows:—

Wheat,	20,000 bushels.
Buckwheat,	50,000 bushels
Oats,	650,000 bushels
Potatoes,	480,000 bushels
Red Clover,	6,400 bushels
Timothy,	20,000 bushels
Turnip-seed,	145 bushels

The average acre yield of field crops for the past eighteen years is as follows:—

Wheat,	18.7 bushels
Buckwheat,	22.5 bushels
Oats,	29.6 bushels
Potatoes,	152.4 bushels
Turnips	452.4 bushels

Any of these crop-yields can be greatly increased by the more general use of better-grade seed, seed which has been home-grown, subjected to some form of selective breeding or grading and over which care has been exercised to guard against inroads of disease.

The propensity of men to try out anything "new" leads many farmers to order a sample of any new variety of oats, wheat, potatoes or even fruits, without knowing its suitability to their district, while their desire to excel prompts many a farmer who may attend stock and seed exhibitions to bring home some specially good stock which has appealed to him in order that he may produce an equally good or better product. The spirit is commendable but the judgment displayed is not always sound, for by such means many varieties are introduced to new conditions which are not suitable or profitable, and the multiplicity of varieties makes it difficult for a dealer to secure any one variety in large quantities, and hence the grower loses the advantage of catering to the wholesale trade.

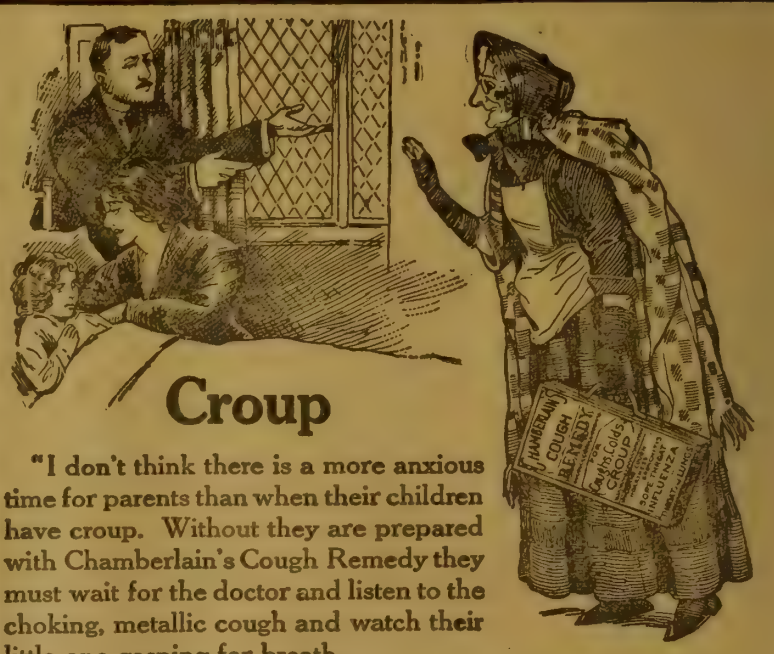
The Association of Canadian Seed Growers has accomplished a marvellous change in the attitude of the public towards an appreciation of good seed. There remains, however, the mass of the farming community to be educated to action in this matter of using the best seed obtainable.

To attain efficiency in the matter of crop production and improvement there can be no such thing as profitable production following the use of inferior or cheap seed. This does not imply that seed is inferior because it is cheap any more than that seed is the best because it is highest priced, though usually good seed is high priced, so too are all quality articles, though such are eventually cheapest.

Only when crop growers fully realize that in the production of any of our field crops the cost of good seed, —even the best seed,—plays the smallest part in the items of cost of production, will there be a determination to have the best seed obtainable. Only then will the efforts of the grower of good seed meet with their just reward,—a demand for his seed, prompted because of an appreciation of its worth by crop growers in general.

Farmers have been slow to apply those principles so generally used in the improvement of their live-stock to the improvement of their farm crops. They have restricted the axiom "breed only from the best" to stock improvement, under the impression that plant-breeding or plant improvement is too trifling a business to reward any effort spent in that direction.

It is, nevertheless, a fact that these same principles of stock improve-



"Granny" Chamberlain

Croup

"I don't think there is a more anxious time for parents than when their children have croup. Without they are prepared with Chamberlain's Cough Remedy they must wait for the doctor and listen to the choking, metallic cough and watch their little one gasping for breath.

You know the great danger of croup is the formation of a false membrane in the larynx, and until this is expelled relief cannot be obtained, and the spasmodic choking continues. Give Chamberlain's Cough Remedy in frequent doses. It will loosen this membrane and cause the child to expel it by vomiting.

Chamberlain's Cough Remedy

is an absolutely safe and certain remedy for croup, and if given as soon as the child becomes hoarse, or even after the croupy cough appears, it will prevent the attack."

Yours for Health —Granny Chamberlain

29

ment, when applied to the improvement of plants, are equally effective, they are sooner productive of results and are more cheaply applied; while the rewards consist of more than the empty glory accorded him "who makes two blades of grass grow where but one grew before."

To the possibilities of selective-breeding, intelligently carried on upon the average farm, little attention is paid. Individuality in plants is scarcely recognized as being a tangible fact, though with such evidence as is furnished by the popularity of Marquis wheat, which originated from a single cross-bred kernel, and the Green Mountain potato, which originated from a cross-bred seedling, there can be no doubt that individuality is present and that individuals which display characters which are desirable can be made to be of great service by propagating them apart, for the expression of such characters transmitted to the progeny can be regulated by selection. Such restrictions by selection of expressed characters within a variety constitute "line-breeding."

By such methods "strains" or "races" among different cereals have been bred, while "clons" have been likewise originated from plants which are vegetatively propagated; ex., Potatoes.

The value to the agricultural industry of the discovery and breeding of such improved varieties of farm crops as have been mentioned is almost inestimable, likewise the value of the increased crops which may be secured through the use of well graded seed,—sound, plump and prolific.

Now, when acre-profit is the basis for an efficiency status among farmers and an increased production of agricultural products is called for, is there any other means likely to be so potent of results as by the sowing, growing and selling of good seed?

If we could comprehend the vast influence of seed selection in raising the productive value of agricultural plants and its value as a fundamental of crop improvement in the attainment of a more efficient and profitable agriculture, it would be reasonable to expect a display of community spirit in the problems of crop improvement and seed production, with the establishment of a seed centre, where a community produces chiefly a particular variety of any class of crop, and in this way facilitate the sale of their product as seed-growers.

O. C. HICKS,
Soils and Crops Division, Dept. of Agriculture, Fredericton N. B.

EIGHT EGG POINTS

1. Grain (scratch food) and ground feed (mash).
2. Animal food, such as beef scrap or sour skim milk.
3. Grit and oyster shell.
4. Green food.
5. Clean, fresh water.
6. Liberal feeding.
7. Plenty of exercise.
8. Regular attention.

Hens eat from five to eight pounds of food a month, or 60 to 80 pounds in a year. The daily food eaten by a hen is from three to four ounces. The daily ration for 100 hens is from 19 to 25 pounds.

Hens drink about six pounds of milk a month. One hundred hens drink 2½ gallons of milk daily.

On limited range, a laying hen eats two pounds of grit and three pounds of oyster shell in a year.

The next time you make any kind of a contract put it in writing. It may save you considerable worry and expense.

Another Cup, Please!

A compliment the lady of the house may be sure of when she uses KING COLE TEA---and what woman does not like to have her tea appreciated!

KING COLE'S rich, mellow flavor gives the finishing touch to an enjoyable repast.

"You'll like the flavor"

Give the "Kiddies" All They Want of

CROWN BRAND CORN SYRUP

It is one of the delicious "good things" that has a real food value.

A slice of your good homemade bread, spread with "Crown Brand", forms a perfectly balanced food, that is practically all nourishment.

So—let them have it on biscuits and pancakes, and on their porridge if they want it.

You'll like it, too, on Griddle Cakes—on Blanc Mange and Baked Apples. And you'll find it the most economical sweetener you can use, for Cakes, Cookies, Gingerbread and Pies.

Have your husband get a tin, the next time he is in town—a 5, 10 or 20 pound tin—or a 3 pound glass jar.

THE CANADA STARCH CO. LIMITED
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.
Makers of "Lily White" Corn Syrup—Benson's Corn Starch—and "Silver Gloss" Laundry Starch.

220

Our new recipe book, "Desserts and Candies", will show you how to make a lot of really delicious dishes with "Crown Brand". Write for a copy to our Montreal Office.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF **$500** OR ANY MULTIPLE THEREOF.

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,
OCTOBER 7th, 1916.

INJURIOUS BITING INSECTS IN N. S. APPLE ORCHARDS

(Continued from page 291)

history, now familiar to most of your,

A brief account of this insect's life is as follows. The winter is passed in the egg stage, the eggs being found in white, froth-covered masses adhering closely to the cluster of dead leaves which protected the pupal case of the female. These hatch in late June and the young feed on the leaves and fruit for a period of about six weeks when they pupate, the pupal case being formed in a cluster of one or more folded leaves. When the fruit is attacked, the caterpillars do not eat into the flesh, but gnaw away a shallow, spreading, much scalloped cavity which is superficial rather than deep, differing in this respect from the work of the green fruit worms which consists typically of a more or less round, deep, cavity chewed right into the side of the fruit and not spreading and scalloped as is the case with the Tussock moth work. About the end of August the adults emerge, the males winged, the females wingless. For this reason the female very seldom moves from the old pupal case but lays her eggs on the outside of the protecting leaves, covers them over with a white froth and drops to the ground.

The best means of control is the use of some arsenical spray when the larvae are very young and ,where practical in small orchards or on small trees, the gathering of egg masses when the trees are dormant.

The Canker Worm

This insect, like the Tussock Moth, is periodical in its occurance and is controlled naturally by parasites but usually not until great damage has been done to the orchards which it infests. During 1915 a great many orchards were almost totally defoliated and during the past season conditions were even worse. Reports from the brown-tail moth inspectors and from individual orchardists go to show that the coming year will likely see the worst outbreak of canker worm that we have had for ten years or more. The Granville section, the section between Bridgetown and Middleton, Nictaux and the territory between Kentville and Horton are the most heavily infested. In all probability in 1917 the pest will reach its maximum but it possibly may run another year and be even worse in 1918—which is not a pleasant prospect.

Doubtless you are all now familiar with the life history of this insect so it will be sufficient to remind you of a few of the more important points only. In late October and November the adults, which have been pupating in the ground, emerge and as the females are wingless they are forced to ascend the trunks of the trees in order to deposit their eggs on the twigs. It is at this period that the tanglefoot bands do their work. The eggs, laid on their bases in regular clusters, are found usually on the smaller branches and twigs and commence hatching in the spring about the middle or end of May. The ascent of the females in the fall and the hatching of the eggs in the spring are the vital points in this insects life history, as far as control measures are concerned.

Control.—There are two important remedies which if carried on at the right time and in the right way will control canker worms in any orchard. (1- The application of a strong arsenical spray immediately after the caterpillars hatch, or just before the blossoms and (2) the banding of the trees in the fall before the adults ascend the trees to lay their eggs. The commercial tanglefoot, sold by the United Fruit Company, gives better results than the homemade article and is therefor recommended.

"The Best Marmalade I Ever Made"

Select fresh, clean-skinned Seville oranges for their wholesome bitter zest, and spicy sweet oranges for their fragrance and flavor. Tell the grocer to send with them a bag or carton of

Lantic Sugar

the pure cane sugar which you will find best for marmalade and all preserving. On account of its very "FINE" granulation, Lantic Sugar dissolves instantly, making crystal clear syrups and bright, firm jellies.

MARMALADE without weighing

Slice six bitter oranges and seven sweet oranges and add three cups of cold water for each cup of the fruit pulp. Let stand for 24 hours in a glass or porcelain vessel, then bring slightly to the boiling point and boil for 15 minutes. Set aside for another 24 hours. Then measure five kitchen cups full of the fruit into a preserving kettle and boil briskly for about an hour. Add a 2-lb. carton of Lantic Sugar, which will need no weighing as it has been accurately weighed when it was packed.

Note: This quantity makes nearly 5 pounds of marmalade. It is better not to cook more than this at one time as the long cooking tends to darken it.

Don't buy sugar by the "quarter's worth" or "dollar's worth." Buy Lantic Sugar in our full-weight sealed packages. Weighed, sealed and packed automatically at the refinery. No hand touches it but your own.

"The All-Purpose Sugar"

10, 20 and 100-lb. Sacks
2 and 5-lb. Cartons

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A CLEAN MOUTH PROTECTS HEALTH

(Continued from page 303)

Granting now that the rising generation, by taking advantage of dental care and constant cleansing, are to be spared the distressing conditions of the teeth which give rise to pyorrhea. foul breath, impaired digestion, rheumatism and even valvular heart disease, what are we of advanced years to do whose wisdom teeth were cut before any of those discoveries were made or any of this good advice promulgated?

We have made one step when we accept the discoveries as probably correct and consider the possibility of their personal application. This comes with especial force to the person who has long been annoyed with some persistent chronic ailment pointing to a concealed infection. This may manifest itself as rheumatism, as a troublesome eczema, as a persistent headache, repeated attacks of asthma or even inflammation of the kidneys or heart.

If with such a condition there exists the slightest suspicion of diseased teeth or gums there is every reason to secure prompt attention, with the cheerful hope that attention to the teeth will cure or at least relieve the associated disease.

THE EGG SITUATION

(Continued from page 299)

not only for the present, but in the days of adversity which are apt to come following the war. Agriculture is Canada's basic industry. Her own local demands are relatively small. She must find her place in the markets of the world. Even among her allies will be found some of her keenest competitors with respect to certain of her national crops, but in the production of live stock and live stock products, of which poultry is taking an increasingly important part every year, we have in Canada, assets in our herds and flocks of purebred stock and in the higher civilization of our people, that which, if properly applied and developed in the most progressive, business-like manner possible, will insure Canada and Canadians that prosperity which we hope and believe is the natural heritage of this fair Dominion.—By W. A. Brown, N. S., Live Stock Branch, Ottawa.

THE IMPORTANCE OF PLANTING VIGOROUS SEED STOCK

(Continued from page 287)

the lack of vigour in his stock and get rid of it, but it is impossible to determine the difference between some of the strains until they are brought together side by side. We no doubt will have a fluctuating variation within strains of a variety and it would not be wise to drop out all except the highest one tested, but it seems we could safely reduce the number to the fifty bushels difference in range.

The results so far would seem to point to a very practical way whereby a community with the least possible help from outside sources can vastly improve their standard varieties of potatoes. The best of a community could then be brought together at a central station and there further tested and outstanding strains developed for general distribution for seed purposes.—An address by Prof. W. S. Blair at the N. B. Potato Growers' Convention.

"Empire corrugated Iron"

"EMPIRE" Corrugated Iron is made with deep corrugations fitting closely and snugly; it makes a splendid, strong, rigid wall that withstands all storms. Remember—building with Metal gives you fire-proof, weather-proof and lightning-proof buildings.

Our "Metallic" building materials—the "Quality First" kind—may cost a little more than other building materials, but they're permanent. "Eastlake" Galvanized Shingles; "Metallic" Ceilings; "Metallic" Rock and Brick-face and Clapboard Siding; Roof-lights and Ventilators, Silo Tops, etc., save you money.

Write for interesting booklet giving complete information, prices, etc.

Metallic Roofing Co. Limited
Toronto - Winnipeg
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"I could not have done without it this Summer, as help is so scarce"

Here is the experience of one of the scores of dairy farmers for whom the

EMPIRE
Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

R. R. No. 3, INGERSOLL, ONT.

Gentlemen:—

I have used one of your "Empire Milkers" since early last April, or from about 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier.

I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean.

I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.

WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. L

The Empire Cream Separator Co. of Canada, Limited,
58 MONTREAL. TORONTO. WINNIPEG.

SMALL FRUITS

(Continued from page 287)

with couch grass and barnyard manure applied at the rate of 40 to 50 tons per acre in the fall and plowed in, this will give the weeds a chance to germinate before planting the strawberries in the spring and also conserve the moisture. Commercial fertilizers will in conjunction with a conserve the moisture. Commercial fertilizers will in conjunction with a clover sod take the place of barnyard manure but it will be found more expensive and has not the same physical effects on the soil. As the manure helps to retain moisture and the bacteria of the manure puts the plant food in an available condition much quicker because a clover sod is apt to be infested with white grubs. The soil should be worked as early in the spring as possible before planting, so that the weeds will be given a start and thus killed by the cultural methods just previous to planting. A light dressing of bone meal or wood ashes may be applied at this time. Be sure and cultivate thoroughly two or three inches deep so that all manure is thoroughly incorporated with the soil. Remember that the soil cannot be in too fine tilth for the young plants. If the soil is rather dry on top rolling the land at this time will bring the moisture to the surface and also make the task of marking the rows easier. Mark off your field with rows four feet apart and one foot between the plants in the row. In selecting your plants select only the best. Don't take the plants from the edge of the row where the last plants formed the previous year are situated most of which, owing to the lateness in their forming are deficient in a good root system, but dig up all the row is necessary and take only the plants with a good vigorous appearance and possessing large white healthy roots. The strength, health and vigor of your plants may be much improved by selecting, a few hundred of your best plants and setting them in a row or two where they can be given the best of care for your planting the year following. There is just as much individuality in the strawberry as in the apple. Select your plants as you would your trees. Do not allow your plants to wilt before planting if it can be avoided. The quickest and best way to plant strawberries is by using a spade, a man and a boy are needed in the operation. The man with a spade walks backward following the marks and with the spade makes a three cornered hole into which the boy places he plant holding it firmly while the spade is removed. The foot is then used to pack the soil firmly about the plant. The duty of the boy is to place the plant at the right depth, just so the crown of the plant is even with the surface of the ground.

Cultivation should immediately follow the planting and must be thorough and continuous throughout the season as the coming crop of fruit depends on the vigor of the parent plants. The early cultivation's should be quite deep and gradually grow shallower as the season advances as the soil dries to the depth of cultivation and the plants (young runners) do not set well if too far from moisture. The man with the hoe can do much to increase the yield of the crop by carefully placing the runners in the proper direction and not allowing them to grow prosmiscuously, also picking off all the blossoms as they appear.

With our alternate freezing and thawing during the winter and spring mulching is necessary. This can be done either with strawy manure or straw that are free from weeds and weed seeds. Apply it as soon as the ground is frozen. In the spring rake the mulch between the rows where it will conserve moisture and keep the fruit clean and free from dust. Don't remove it too early wait until you see the leaves start, and you will thus avoid spring frosts. Only one crop pays.

The choice of varieties for commercial planting is very important. Some varieties seem to be adapted to sandy soil and very warm conditions generally, while others seem to prefer heavier soil and cooler conditions. A variety that does exceptionally well on one farm may not do well on another a short distance away. Each grower must select for himself the variety that is best suited to his soil and conditions. No one can select this variety or varieties for him. He must find this out for himself from test plots or rows or from experience.

Strawberries are divided into two classes according to their blossoms, perfect and imperfect. The perfect flower has both pistil and stamens and is able to fertilize its own blossoms, but with the imperfect flower the stamens are wanting and hence cannot be fertilized unless a perfect variety is planted beside it to fertilize its imperfect flowers. Therefore care must be used in selecting the varieties you plant to be sure you do not plant imperfect varieties without some other perfect variety to supply the pollen for these imperfect blossoms. Do not plant your perfect variety one side of the plantation and the imperfect on the other, if planting imperfect varieties plant one row of perfect to every three rows of imperfect. The best varieties we have found on the farm at Kentville are the Senator Dunlop (perfect) Pocomoke (perfect) Sample (imperfect). The yields from these three varieties for the last two years are as follows,—

	1915	1916.
Senator Dunlop	5185	6222
Pocomoke	5202	5619
Sample	5661	5193

Raspberries and Blackberries.

They need a cool moist well drained soil which is not too rich in nitrogenous fertilizer as this class of fertilizer produces an excess of wood or cane growth. Barnyard manure at the rate of from 10 to 20 tons every two years according to the soil conditions is the standby of all the old growers. A dressing of bone meal is also beneficial occosionally. Raspberries are propagated by suckers, these are young plants that come up between the rows of the plantation after the last cultivation. Select the largest and best of these for your new plantation. Do your planting in the spring. Plant them 6 feet apart between the rows and 3 feet in the row. This allows cultivation in both directions. The hill system is recommended for the following reasons. It makes cultivation easier and cultivation conserves moisture. It allows more sunlight into the ripening fruit. It makes the gathering of the fruit less difficult. It also increases the size of the fruit. Clean cultivation throughout the season is essential to the best results. Fall plowing up to the plants for winter protection and this being hoed back in the spring to remove the weeds and form a mulch is recommended. Careful pruning is necessary. The fruit is borne on the wood produced the previous season therefore after the second year it is important to remove in the early spring all canes that have borne fruit and also all but five or six of the best new shoots. To reduce the expense of the first year a crop of tomatoes, beans, cabbage or some hoed crop may be planted between the rows. The yields at Kentville are as follows,

Herbert Raspberry 1915 4445 quarts
No. 4 Seedling Raspberry 5123 quarts
Minniwaski Blackberry 2973 quarts

Currants and Gooseberries

Currants and Gooseberries thrive best in a cool rich moist soil, preferably a heavy clay loam that is well drained. Like the other bush fruits they require a soil with plenty of available plant food which is at the present time best supplied by liberal applications of well rolled barnyard manure. These fruits are best planted in the autumn say September, because it is difficult to get them into the ground early enough in the spring. Plant in rows 6 feet apart and 4 feet apart in the row. Be sure they are set deep enough and the soil well tramped about the roots. After planting cultivate immediately. Clean cultivation throughout the season is very important to hold the weeds in check and retain moisture. After the plantation comes into bearing, dressing of barnyard manure should be given every other year.

In conclusion I would not recommend any one to go into the commercial growing of this last class of small fruits without first trying them out on a small scale, but I would recommend every farmer and fruit grower in these Valleys to plant enough bushes on his own farm to supply his own demands. By this practice each farmer will get the experience in growing them and then if he so desires he can go into them commercially.

But the commercial production of the strawberry and raspberry are entirely different, with these we have the ease of culture. The market demand and the facilities for marketing besides good prices. Therefore let us endeavourn to make the commerciay growing of small fruits in the Annapolis and Cornwallis Valleys one of our chief horticultural industries of the provinces.

THIS MAY BE WHAT YOUR HENS NEED

Hens cannot lay consistently unless they have the right feeds in the right proportions. The following are rations for winter feeding:

1. Scratch food—1 part wheat, 2 parts corn. Mash (ground food)—1 part bran, 1 part middlings (shorts), 1 part corn meal, 1 part commercial beef scrap.

2. Scratch food—2 parts corn. 1 part wheat. Mash—ground oats, butter milk or sour milk as a drink.

The parts in the rations are given by weight and not by volume. Other factors are met in egg production, and it may be that proper feeding will not produce desired results. However, desired results cannot be obtained without proper feeding. The ration is one of the important factors in egg production which can be controlled. Certainly the man who feeds for egg production will receive more eggs in a year than the man who follows no systematic feeding plan.

GRASPING PRESENT DAY PROBLEMS

The great, dominating thought ever present in the mind of every one of us is, "How long will the war last, and what effect will its close have upon our trade and other conditions?" We cannot answer either of these questions, but we can all lend our aid and assist very materially in hastening the end by the sending overseas such of our young men who have not already announced their willingness to go and who can be spared from the country's industrial activities, and we can be prepared for whatever eventualities the close of the war may bring forth if we continue to maintain our farms and orchards in a high state of cultivation and to increase the quantity and improve the quality of our products.

At this distance it is impossible for us to even in a small degree appreciate the significance of the titanic struggle now engaging the attention of the whole world. The results are bound to go to the very roots of civilization. The focus of our views as affecting our relations with the whole human race will be changed. What a wonderful thing it is—great beyond the possibility of our imagination—that we here to-night are a part, an integral part, of a nation less than fifty million people, who when the war was declared had no army, no munitions, no preparation of any kind commensurate with the task to be undertaken, and yet who in less than three years has placed at the front and in readiness for the field the greatest army the world has ever seen, and made ready for war munitions in such volume as to stupify and daze the mind of the many who had spent forty years in preparation for the struggle. Think of the ocean lanes kept open, over which the commerce of continents passes without molestation; think of the financial strength, growing stronger every day; think of a thousand and one things all indicating hidden strength and a resolve to do the right; and let us thank God we are permitted to live in such an age and have some part in the righting of the greatest wrong ever perpetrated upon the human race.

We should not listen to pessimistic utterance regarding lack of market or scarcity of tonnage, but rather should exert every effort to increase our production and improve its quality. The geographical location of this valley and its nearness to the United Kingdom are factors which mean a continuous and ever widening market for the quality of fruit you are capable of producing. The Nova Scotia apple is famous the world over; but you growers have a grave responsibility in this respect. Be very careful that you give heed to the quality rather than the quantity if you would maintain the high standard of the past. Quality makes a splendid selling agent. Investigation last year indicated that with a normal crop there is a splendid opening for your famous Gravensteins in New England. This is a matter I think your organization could follow up with advantage.

The scarcity of certain fertilizers, or the impossibility of obtaining them at the prevailing high prices, should not be permitted to discourage you in the matter of cultivation, but should prove a strong incentive in the direction of mixed farming, in the development of which you would become more and more independent of artificial fertilizers and make for more permanent success.

This is a time when we should, as communities and as individuals, exercise more thrift. We should not waste the products of our orchards, as is frequently the case. We should make a closer study of the methods whereby our inferior fruit can be preserved. Thre is an ever growing market in the great North West for all varieties of canned as well as fresh fruits. The opportunity is yours.

The labour question is recognized as a serious one, and is a matter requiring careful study. In many sections the shortage has been offset to a greater or less extent by the use of dynamite in tree planting, breaking up new ground, etc. The use of gasoline tractors in the cultivation of the soil has also been introduced with marked success. We have now in our possession, and are arranging for many more, moving picture films depicting modern methods of orcharding, planting, cultivating, etc., and during the winter these will be shown in various centres so that every grower may have the benefit of the experience gained in other quarters. Another feature whereby the labour conditions on the farm might be very materially improved would be by making the life thereon more attractive, especially for the young. There are many cases where the young men growing up on the farm feel that they should be given some definite return for their labour.

In 1914, you had in Hants, Kings, Annapolis, Digby and Yarmouth Counties approximately 32,000 acres of orchard. At forty trees to the acre, this would mean 1,280,000 trees, and at a barrel to a tree (not a large average) would mean that many barrels of fruit. This figure has never been equalled except in 1911. In view of the fact that fruit trees, like other natural products, either improve or deteriorate, there would seem to be food for serious thought as to the reason for the continued low average crop, and a real necessity for definite action in order to preserve and improve the most valuable asset found in the fruit trees of this delightful valley. If it is spraying, pruning, cultivation of what not, let us grasp

"Only for the Teeth Have We Learned to Take Precaution in Advance of Pain."

Experience has taught us that to wait for the toothache warning is to allow irreparable loss to be done.

But why do we not apply this lesson in caring for the general health, and by keeping the blood rich and the nervous energy at high-water mark, reduce sickness to a minimum and prolong life ?

There are many symptoms to warn you of the weak, watery condition of the blood and exhausted nerves, and by the timely use of Dr. Chase's Nerve Food it is not difficult to restore richness to the blood and feed the starved nerves back to health and vigor.

But just as the tooth cannot be saved after decay has gone too far, so the nerve cells can never be replaced once they are dead.

On this account it is a thousand times better to be warned by sleeplessness, headaches, indigestion, tired feelings and muscular weakness rather than to neglect treatment and allow nervous prostration, locomotor ataxia or paralysis to develop.

That Dr. Chase's Nerve Food is the greatest of nerve restoratives is being proven every day, and you will find the evidence in the daily and weekly papers.

50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

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Dr. Chase's Nerve Food

the problem with vigor, in order that we may take and maintain the place intended us by Nature—the finest and best fruit growing country in the world.

An address by Geo. E. Graham, manager D. A. R., Kentville, N. S., before the N S. F. A at Lawrencetown.

ANNUAL MEETING CANADIAN AYRSHIRE BREDERS' ASSOCIATION

(Continued from page 293)

olution passed at the last Annual Meeting, governing the disposition of Diplomas to bulls that qualify in the Record of Performance test, cannot be successfully carried out, therefore, be it resolved that the Diploma be sent to the breeder of the bull qualifying, or the importer, in the case of an imported buil, and any owner may secure a copy, on application to the Secretary, and on payment of fifty cents. In the event of the breeder being dead, out of business and the herd dispersed, that the Diploma go to the first owner.

Resolution re War Loan

"That the Secretary be instructed to invest $4,000. of our surplus funds in the next war loan issue."

Resolution re Patriotic Fund

"That the Secretary be instructed to pay $100.00 to the Canadian Patriotic Fund."

Resolution re Fair Grants.

"That the following grants be madt to Fairs:—Toronto-National—$300.00; Ottawa, $200.00; London, $100.00; Ormstown, $100.00; Sherbrooke $200.00; Quebec $100.00; Three Rivers (conditional) $100.00; Valleyfield $50.00; Halifax $70.00; Chatham & Fredericton $50.00 each; Charlottetown 4ep —em,a br- r l-(T tb e o d9,a0 Saskatoon $50.00; Prince Albert $25.00; North Battleford $25.00; Lloyd minster $25.00; Calgary $75.00; Edmonton $75.00; Red Deer $75.00; New Westminster $50.00; Vancouver (conditional) $50.00; Victoria $50.00.

The usual sweepstake prizes were offered at the Dairy Tests, and in the event of an Ayrshire being sweepstake the prize to be $100.00.

Officers

The following officers were elected:—Honorary President—John Bright, Ottawa, Ont.; President—W. W. Ballantyne, Stratford, Ont.; Vice-president—L. J. Tarte, Montreal, Que.; Secretary-Treasurer—W. F. Stephen, Huntingdon, Que.; Registrar—A. R. Dawson, Ottawa, Ont.; Auditors—J. P. Cavers, Ormstown, Que., W. C. Tully, Athelstan, Que.

Vice-Presidents

Ontario—W. H. McNish, Lyn, Ont.; Quebec—Frank Byrnes, Quebec, Que.; Manitoba—Wm. Braid, Oak River, Mani; Saskatchewan—F. H. O. Harrison, Pense, Sask.; Alberta—Rowland Ness, DeWinton, Alta.; British Columbia—S. H. Shannon, Cloverdale, B. C.; Prince Edward Island—James Easton, Charlottetown, P. E. I.; Nova Scotia—Prescott Blanchard, Truro, N. S.; New Brunswick—G. C. P. McIntyre, Sussex, N. B.

Directors.

Western—A. H. Trimble, Red Deer, Alta.; W. W. Ballantyne, Stratford, Ont.; John McKee, Norwich, Ont.; A. S. Turner, Ryckman's Corners, Ont.; Alex. Hume, Campbellford, Ont.; Wm. Stewart. Jr., Campbellford, Ont.; F. H. Harris, Mount Elgin, Ont.

Eastern—R. R. Ness, Howick, Que.; Hector Gordon, Howick, Que.; Gilbert McMillan, Huntingdon, Que.; J. H. Black, Lachute, Que.; M. Ste. Marie, Compton, Que.; L. J. Tarte, Montreal, Que.; Fred McRae, Charlottetown, P. E. I.

Executive Committee

The President, Vice-President, Secretary-Treasurer, R R. Ness, M. Ste Marie, Gilbert McMillan, Wm. Stewart, A. Hume, and John McKee.

Delegates to National Record Board

W. W. Ballantyne, John McKee, W. F. Stephen and H. C. Hamill.

Delegates to National Live Stock Association

W. W. Ballantyne, R. R. Ness and W. F. Stephen.

Registration Committee

W. R. Ness, W. F. Stephen, the Accountant and Registrar.

Advertising Committee

W. W. Ballantyne, John McKee, M. Ste Marie, R. R. Ness and the Secretary.

How many farmers know that a nail can be driven into hard wood much easier if first rubbed with lard.

DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

The Greatest Boon Since the Self-Binder

Life in the country has taken a wonderful step in advance with the coming of Delco-Light. Nothing since the self-binder has meant so much to the farmer and small-town dweller. Here, at last, is complete and economical electric light and power for every home that is now without it. No home in the world will now be more worth living in than that of the progressive farmer. Nothing that the big city offers is now beyond your reach. With Delco-Light country life becomes the preferred. It brings every comfort and convenience to the farm—saves money, time, labor for all the family.

Electric Light and Power

Here is Delco-Light—electric light—clean, brilliant, safe. Delco-Light goes everywhere—all over the house, in the barns and sheds, outdoors. Clear light, best for work and eyes. Clean light, without the labor of cleaning lamps and lanterns. Safe light, with no danger of fire.

Delco-Light is a pleasure, a convenience, almost a necessity. But Delco-Light power is even more. It earns its way. With the Delco-Light Power Stand you can do much of your chores by machine. Saves hours of time in milking, separating, churning, feed-cutting, washing, pumping water.

Delco-Light is the most compact, efficient and simple electric-lighting plant yet developed. The main unit consists of a switchboard, combined electric motor and generator, and a gasoline engine. The other unit is a set of storage batteries. Each part is the simplest of its kind that will work efficiently. Little operating is called for, little adjusting. The engine is self-starting by pressing down a switch. Stops automatically when batteries are fully charged. Price of No. 208 is $390, and No. 216 is $465.

COMPLETE USE OF ELECTRICITY

The Delco-Light Power Stand will increase the usefulness of your electricity 100%. It is a compact, sturdy, efficient portable motor, saving of current. Take it anywhere. It runs from the nearest light socket. It will operate all kinds of light machinery, saving you hours of time and labor.

FREE **FULL INFORMATION**—We have prepared several intensely interesting books telling all about Delco-Light—how little it costs, how much it does, how easy it is to install and operate. Send your name and address for these books free.

Domestic Engineering Co., DAYTON, OHIO

The same company that has made world-famous Delco-starting, lighting and ignition plants for automobiles.

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Distributor

168 Bay St., Toronto

CARE OF EGGS FOR HATCHING

Eggs for hatching purposes are preferably not held over two weeks. The fresher they are when put in the incubator, the better. They need to be gathered often to prevent chilling in the nests. A mixture of various sizes and shapes is a sure guarantee of indifferent results. Dirty eggs also are to be avoided, as the pores in the shell of such eggs are closed up, thus preventing proper entrance of fresh air or the escape of gases from the egg. Washing and drying with a cloth destroys the cuticle of an egg cloth destroys the cuticle of an egg, and permits too rapid evaporation of its moisture.

As a rule a hen lays eggs of about the same shape continually and in general the shape of eggs is transmitted to offspring. Good market eggs are normal size and uniform; hence the necessity of breeding from hens producing such eggs. Eggs for incubation are held at a temperature of 50 to 55 degrees. At a room temperature of 68 to 70 degrees they will start to incubate. If best results are to be secured the eggs are candled. By this method cracked and developed eggs are eliminated. When eggs are held for hatching it is not necessary to keep the large end up as they will keep just as well as on the sides. When kept over a week it is advisable to turn them once a day. No eggs are saved until the male has been with the females seven to 10 days.—F. D. Crooks.

FENCE BUYERS---NOTICE

Our prices are the lowest it is possible to name, quality of fence considered. To make a less price quality would have to be sacrificed. We think it only fair to give the public this statement.

Of course, if one would just as soon have a low grade or off grade fence, he can buy the kind sold at a low price. That is his affair. If, however, good quality and permanency is desired in a fence he should buy ours or a similar good grade, at the small extra cost necessary.

There is a lot of high quality fencing being sold this year.
Fence buyers are evidently learning to discriminate.
Our 1917 prices and printed matter is now ready for you.

THE PAGE WIRE FENCE COMPANY
LIMITED.

45 DOCK ST. ST. JOHN, N. B.

BREEDERS' DIRECTORY

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John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

Ayrshire Cattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
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Shorthorn Cattle.

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OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
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Live-stock Labels for cattle, sheep and hogs, manufactured by the **Ketchum Manufacturing Co.**, Box 501, Ottawa, Ont. Write for samples and prices.

Two Cents a Word.

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SUPERB STRAWBERRIES—July 1st to Nov. 1st. Large stock of fine plants. We replace any that fail to grow. 10000 now in stock. $2.50 per 100 plants, postpaid, to any adddress. Everything i nursery stock. Write us for prices.—ST. JOHN VALLEY NURSERIES, Burton, N. B.

ST. REGIS—the ever bearing raspberry fruit untill frost. Herbert, red; Cumberland, black; Golden Queen, yellow; Schoffer's Colossal, brown. 20 plants for $1.00, postpaid. Everything in nursery stock.—ST. JOHN VALLEY NURSERIES, Burton, N. B.

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Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

BLUEBELL VIEW FARM

offers for sale one pure bred Holstein Bull Calf, 2 months old, whose grand sire was three times grand champion at Toronto and his dam has made over 12,000 lbs. milk in 10 months and tested 31-2 fat. He is well marked and right in every way. Price $40.00 if taken at once. We also have pure bred Berkshire Pigs for sale.

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Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

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Offers for Sale :

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

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REGISTERED JERSEY BULL FOR SALE

A. J. C. C. registered. One year old January 1917. From my imported Jersey cow. Two grand dams in R. of P. This is an exceptionally fine animal and will be sold right. For further particulars, Apply to

R. A. BACKMAN,
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A year old Guernsey Bull of good breeding, sired by animal with good record from the Experimental Farm, Ottawa. Dam splendid milk record.

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Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

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HATCHING EGGS, $5.00 per 100.
DAY-OLD CHICKS, $10.00 per 100

Ready in March. Am now booking orders for eggs and chicks from my vigorous, free range, strain of selected heavy layers. Also some choice exhibition stock. Send for mating list to

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Catalogue or Strawberry and Raspberry plants, etc., will be isued in a short time and will be sent to all on our mailing list and any others who would like it, if they will send name.

We have for sale one 200 egg Incubator, good as new, Buff Wyandotte cock and hen, one White Wyandotte cockerel.

ORCHARD HILL FARM,
Brown's Flats, N. B.

COSSAR STOCK FARM,
Lower Gagetown, N. B.

Importers and Breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep. A number of choicely bred animals for sale.

G. C. COSSAR, Prop. — J. MEIKLEJOHN, Agent.

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Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

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Our present offering is a number of of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

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Codys, N. B.

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For Sale—Registered stock. Male or female.

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Great Village, N.S.

Registered Stock for Sale

Guernsey and Ayrshires Bulls, ranging from nine months to eighteen months old.

Guernsey and Ayrshire New Milch Cows. Also Young Calves of both breeds. Last but not least, Registered Shropshire Ram Lambs. The above will be shown at Shubenacadie District Exhibition.

John McDonald & Son
Shubenacadie, N. S. - Bloomfield Farm

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Present offering one bull calf dropped Dec. 23, 1916. Dam Milkmaid of Springbrook Farm, record of a two year old 8,864 lbs. of milk, 349 lbs. of fat, now under test for a four year old, giving almost 50 lbs per day. Sire, Springbank Roger, his Dam has a four year old record of 11,385 lbs. of milk and 511 lbs of fat. Also one two year old bull by same sire.

Stewiacke, Col. Co., N. S.
T. J. HAWKINS,

RIVERVIEW STOCK FARM

Holstein Cattle, Yorkshire and White Chester Swine.

Write us for prices, and breeding of bulls ready for service. Have some nice boars for sale, also Sows ready to breed. The right type and prices right.

D. R. NICHOLSON, - Coxheath, N. S.

Eggs for Hatching from Exhibition Matings

Barred Rocks Pullet Mating Strain.
Yard 1—Headed by Hector, imported from Grove Hill, mated to him are 1, 2, 3 pullet, 3rd hen at Amherst Winter Show, 1, 2 pullet, 2, 3 hen at Kentville.

Barred Rock Cockerel Mating Strain.
Yard 2—Headed by Bradley II, 1st cockerel at Amherst, mated to him are three daughters of Bradley I and three pullets in 1st Kentville pen.

White Wyandottes.
Yard 3—Headed by White Bird, 1st Amherst cockerel, mated to 1, 3, 4, 5 hen and 3rd Amherst pen and 1st Kentville pullet.

Blue Orpingtons
Yard 4—Headed by Blue Boy, 2nd Amherst cock, mated to 2, 3 hen and three hens in 2nd Kentville pen.

Single Comb R. I. Reds.
Yard 5—Headed by Kentville Boy, 1st Amherst cockerel and 1st at Halifax, Yarmouth, Kentville, mated to 1st Kentville pen hens, 1st pullet and 1st hen Amherst, 1914.

Our Rocks won Silver Cup for best display in open class, 1916.

Eggs from these pens $2.00 per 13.

KENTVILLE POULTRY YARDS,
KENTVILLE, N. S.

FOR SALE

R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

Lawndale Stock Farm
Jerseys and Shorthorns

Present Offering in Jerseys:

One Grade Jersey Heifer, dropped Feb. 22nd 1915, bred to our herd bull, "Ol Ferns Lad, 3289. She is due to calve next summer and is large and handsome. Sired by double grandson of "Champ. Flying Fox."

In Shorthorns We Offer:

One all red Bull Calf, dropped in Nov. 1916. Sired by first prize winner in his class Halifax Exhibition, 1915.

One all red Bull, dropped May, 1915, very large and handsome of proven worth in service.

One roan Heifer, dropped Dec. 3rd, 1915, out of a grand milking mother and sired by "Stately Monarch." Grand champion Halifax and Charlottetown, 1916.

One all red Heifer Calf, dropped Aug. 27th, 1916, out of a splendid prize winning mother and also sired by "Stately Monarch," as above.

Write for information.

I. M. LOVITT, M. D.,
Yarmouth North, - Nova Scotia

"Homestead Farm"

Holstein-Friesian Cattle
Clydesdale Horses
Shropshire Sheep
Berkshire Pigs

Our present offering is three bulls, fit for service. They are all good individuals and have good official backing. Can part with a few heifers ready to freshen next fall; also some bull calves. Our Berkshires are about all sold and we are now booking orders for ram lambs for fall delivery. Write for description and prices.

Long Distance 'Phone.
LOGAN BROS., Amherst, N. S.

GUERNSEY BULLS!

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA.

Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding The Farmers Most Profitable Cow should be sent to the Secretary of the Association

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SPRINGVALE HERD

Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS
AMHERST, N. S.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Merce es," No. 11727, the sire of our 26.54 lb. Jr. 3 year old and who so far has not a tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particu ars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

McINTYRE BROS.,
Sussex - - - - - N. B.

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Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

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Shorthorn Cattle and Shropshire Sheep

Don't forget while looking at the winners, that there are plenty of the old sort at Bellevue. They are not staying home from choice. Let us quote you prices on stuff that can win in herd and showing. Shorthorn cattle, Shropshire sheep and several heavy horses for sale at right prices.

C. A. ARCHIBALD, - Clifton, N. S.

NETHERLAND FARM, Hammond River, N. B.

HOLSTEIN CATTLE AND YORKSHIRE SWINE
WM. S. HARDING, PROP.

We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Fo forit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

ATTENTION.—We can supply anything you want in Holsteins, young Bulls from 1 to 15 months old, Cows and Heifers, fresh or to freshen soon, yearling Heifers or Heifer Calves. We intend showing at the Amherst Winter Fair and will be pleased to meet our old customers and anyone interested in Holsteins there. Write your wants to

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM
R. O. M. HOLSTEINS

Present offering:—Bull Calf, month old. Weighed 112 lbs. at birth. Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seven days. This calf is a splendid individual and fit to head any herd when mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM
Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

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MORRIS SCOVIL & SONS,
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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B

Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,
33 Jubilee Road, HALIFAX, N. S.

FOR SALE!

A number of Cockerels from best laying strain S. C. Rhode Island Reds, White Leghorns and Barred Rocks. One Rhode Island Red and one White Wyandotte Cock birds. One pure bred Holstein Bull Calf, 8 months old also one pure bred Holstein Cow and several pure bred Oxford Down Ram Lambs.

N. W. EVELEIGH
"The Orchards" Sussex, N. B.

HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast males. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order

W. J. M. MacLEOD, Sussex, N. B.

FOR SALE

5 Trios of S. C. R. I. Reds at $5.00 per trio. These are good colored birds. 1 two year old cock bird, R. C. R. I. 2 two year old cock birds, S. C. R. I. Red.

Write for prices and particulars,
W. H. HENRY, Shubenacadie, N. S.

ELMHURST FARM

Booking orders for spring delivery of Berkshire pigs.

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

NOVA SCOTIA COUNTY LEADERS

One of the most important developments of the agricultural policy which the federal grant for the aid of agriculture in Nova Scotia has enabled the Provincial Department of Agriculture to establish, is that of placing agricultural leaders in various counties of the province.

The late Dr. C. C. James, agricultural commissioner for Canada, considered the establishment of this system of what he termed county representatives, first in Ontario and later in other provinces of the Dominion to have been the crowning achievement of his career as agricultural advisor to the governments whom he served.

In Nova Scotia, all the counties have not yet been brought under this scheme, but in the Cape Breton counties and in Antigonish and Guysboro, there have been placed six men, sometimes aided by assistants, whose work it has been to go right out on the fields of the farmers and by example as well as precept, encourage improved methods of agriculture. The movement is a new one in the province and it is yet too soon to chronicle great achievements. Nevertheless, we feel sure that brief review of the salient features of the work will be of interest to at least those readers who appreciate the importance of developing agriculture in Nova Scotia.

The leader of this county work in Cape Breton is H. S. Cunningham and a great worker and leader he is. Associated with him during the past season were H. B. Langille and Thomas Munn. All are students or graduates of the Nova Scotia College of Agriculture. Mr. Cunningham, the chief, has been supplied with a motor car, in which he has gone as an agricultural missionary, into every corner of Cape Breton from Arichat to Cape North. In addition to this trio, the department has been fortunate in enlisting the services of Rev. Father Robitaille of West Arichat, who has already achieved splendid results on Isle Madame.

* * *

While these men in Cape Breton have aimed to stimulate every branch of farming, yet their greatest effort has been directed toward the encouraging farmers to keep more and better cattle and sheep and other live stock. They might have tackled this problem from several angles but after inquiring carefully into the reason why more progress was not being made, they found that the lack of suitable feed and sufficient quantity of it was the stumbling block. Over in Scotland, which is a sort of prototype of Cape Breton, this difficulty has been largely solved by the growing of acres upon acres of turnips or as they are termed over there "neeps", which crop more than any other single crop has enabled the hard headed canny Scotch farmer to keep one head of cattle to every four or six acres and big flocks of sheep besides, whereas in Nova Scotia the average is one head of cattle to every twelve acres of cleared ground and an all too small extra of sheep.

And so a big part of the work of these men has been demonstrating the best methods of growing turnips on specially selected plots on typical farm lands of the country and giving assistance to any and all farmers who wished to improve their methods of growing this crop. Such a pronounced feature of their work has this turnip growing been that in some parts of the island, Mr. Cummingham, like his associates, is known as "the turnip man."

It may be that if Mr. Cunningham and his allies had gone in for something more spectacular, even if it were superficial, this article might appear more sensational. But the praiseworthy feature of the work has been the effort of these men to get right down to fundamentals. They have not, however, stopped at the turnip crop but they have made this crop the basis for tests with various commercial fertilizers, seaweed, fish refuse and manure, and they have insisted that in succeeding years the turnip land must be systematically rotated, which is one of the great requisites in economically growing crops of all kinds.

Before leaving the turnip subject we may add that hundreds of growers of this crop will earn with interest that by the fall application of lime on some of the Cape Breton demonstration plots, known to have been infested with that exacting scourge of the turnip "club root", the disease we almost completely conquered. Similar treatment of fields elsewhere will save thousands of bushels of turnips that heretofore have been destroyed by the disease.

* * *

Working along similar lines these men have interested many farmers in the newly established creameries at Baddeck and Margaree and so have helped them to realize more money from the product of their cows. They have brought to the Island improved seeds and they have encouraged many growers to save part of the product of this seed for future sowing. They have given advice as to drainage, the cultivation of difficult fields, what to do with cattle and other live stock under various conditions and many other phases of the farm economy. But the most important thing they have accomplished has come about through their stimulating an interest in farming among the young-

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If you want a car that can plow through deep mud, sand and gravel—that can cross fields, corduroy roads and ford streams—that can climb the steepest hills with ease—that will give the greatest mileage all year round with the least expense and care—then there is only ONE car for you—The Ford.

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32

er people of the Island. Away down in Ingonish, for example, where fishing is the paramount industry, a competition in gardening among the school children was inaugurated and in the fall a School Fair was held at which some 350 exhibits of garden and farm products were made by the scholars. Some of the older people report that nothing attempted in the interest of agriculture in that part of the counry has been so successful as this work directed through the local schools.

* * *

On Isle Madame, Father Robitallie has achieved wonders. At the County Exhibition held in Arichat this fall, one of the speakers stated that, whereas the usual custom was for schooners from Prince Edward Island to bring their loads of farm produce to Isle Madame, this year a schooner had been loaded with potatoes, cabbage, and other farm and garden produce at D'Escousse on the island and shipped to Sydney, and he added that for this great achievement Father Robitaille was responsible. Father Robitaille's ambition is not to make farmers out of every resident of the island but to get every fisherman to grow some crop and to induce the bigger holders of land to farm more extensively.

He is an untiring worker, an enthusiast and has achieved results.

He goes right out on the farm and when necessary puts in crops himself and so demonstrates by his own example the proper way of doing things. Last year was his second year of this work and such was the demand for his services that an automobile had to be secured and so the area of his influence has been extended. Father Robitaille is certainly making history in Richmond county.

In Antigonish, Dr. Hugh McPherson, the capable county agent, is known from one end of the county to the other. He is especially interested in helping farmers to use the most effective fertilizers and to sell their products to the best advantage. Last spring, largely through his instrumentality, farmers in Antigonish and Guysboro counties marketed their wool under the up-to-date graded system and netted from 5c to 10c a pound more than those who marketed their wool in the old fashioned way.

Dr. McPherson is a quiet undemonstrative worker and the farmers have great confidence in his. Through his instrumentality two short courses in agriculture have been conducted in the demonstration building, which has been erected for the purpose of further carrying on county educational work, in the Town of Antigonish.

* * *

In Guysboro county, the agent, A. B. MacDonald, a graduate of the Nova Scotia Agricultural College, and of St. Francis Xavier as well, has accomplished wonders in the six months since he has gone there. He has established tests with various fertilizers and with ground and burnt lime. He has conducted demonstrations in sheep dipping, potato spraying and in the growing of all kinds of crops; he has helped in the co-operative marketing of wool; he has established competitions in gardening among many of the scholars attending the local schools of the county; he has organized farmers into a County Farmers' Association and if they carry out their proposed campaign they will accomplish much for the advancement of agriculture in the county. Not long ago we met a potato grower in Guysboro, who said that MacDonald had sprayed two-thirds of his potato plot with a special Bordeaux mixture for the purpose of preventing rot. The grower told us that on the sprayed two-thirds of this field there was scarcely a single rotten potato, whereas on the unsprayed portion from a third to a half of his crop was more or less affected with rot. Farmers in this part of Nova Scotia will spray their potatoes next year, said this man, on whose farm the demonstration was carried on. Mr. MacDonald had also had placed at a central point a modern grain fanning mill and many farmers who have heretofore either sown their seed as it came from the field, or oft times purchased the lower grades of seed on the market, will this year save some of their best oats and wheat, etc., and put it through the fanning mill and so get an A1 quality of acclimated seed which experiments at Truro have shown will give the best results.

* * *

The development of the county agent system has been temporarily retarded because of the scarcity of men due of course to the demands of the war. Nevertheless, the department of agriculture is providing for the extension of the system. In several counties of the province demonstration buildings, so called, have already been erected which will form headquarters for this work.

The idea is right involving as it does the principle of bringing the gospel of improved agriculture right to the doors of the farmer. It has accomplished much in other parts of the world and is sure to prove a means of great advancement in the province of Nova Scotia. If the Federal grant was thus far, responsible for nothing more than introducing this county agent system into the province of Nova Scotia, it would have been well spent.

It is impossible to put up a valid excuse for the ownership of poor land.

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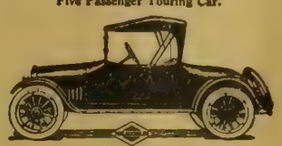

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Five Passenger Touring Car.

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No matter what its price, a McLaughlin car must, and will give the maximum of that service for which it was intended, and must bear its proportion of the responsibility of maintaining that high prestige which has established the McLaughlin as

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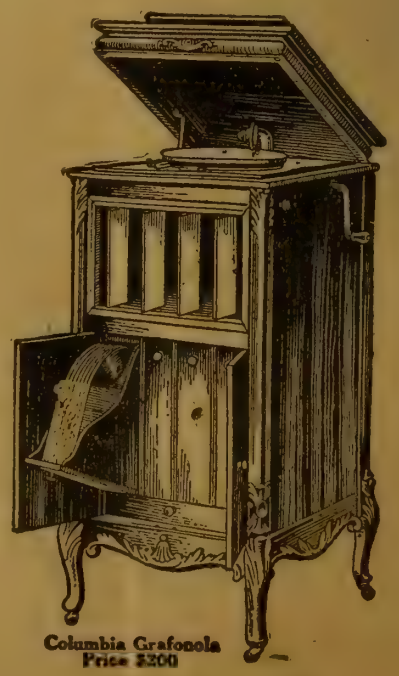

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OFF CROPS AND THEIR CAUSES.

By W. T. Macoun, Dominion Horticulturist

The short crops which are experienced more or less frequently in all parts of Canada are very disappointing and discouraging to the fruit grower. No matter how good the price for fruit may be, if a man has not got much of it he benefits but little by the price. Furthermore, a good crop one year and little or no crop the next bring down the average returns very much and makes the fruit business, especially when one depends on apples alone, a rather precarious one. If I could, at the outset, assure you of good crops every year by following certain methods, I shuld be glad to describe such, but there are conditions, such as the weather, which are beyond our control, and while we may, by the use of fire pots, ward off frost at a critical time, practically no means has yet been devised of preventing rain or making very cool weather warm or of causing rain in time of drought, these being important factors in fruit production. The season previous to the light crop may have an important bearing on that crop. It is not yet fully understood as to what are the climatic conditions most favourable to the development of fruit buds, but it is known that most of the fruit buds are formed in June or July of the year before the crop. If the trees, therefore, are defoliated by caterpillars or apple scab, it should not require any great effort to believe that there could not be the same development of fruit buds as if the leaves of the tree were all healthy and remained on the tree all summer, nor is it hard to believe that even if buds developed sufficiently to form flowers that the buds might not be in a vigorous enough condition to ensure the setting of the fruit. Much more experimental work is still needed in this direction, however. We do not, as much as we should, know how much the development of fruit buds on the temperature or the general character of the weather in the season previous to the light crop. How, for instance, does a summer which is very dry and warm, followed by a warm wet autumn in which new growth starts and some flowers appear, affect the crop for the following year? How does a severe winter affect the flower buds, or very late autumn growth followed by severe frosts?

The reason I have been asked to present this paper is that we have been fairly successful in getting good crops of apples at the Experimental Farm at Ottawa, but before giving you the conditions we have had there during the past nineteen years and their bearing on the crops obtained, I desire to show, if possible, the various ways in which the crop may be reduced, as shown by the work of different experimenters. But before going any deeper into our subject it may be well to give a list of at least some of the things which affect the setting of fruit. They are,—1. The condition of the trees and the weather of the previous year. 2. Temperature and humidity at the blooming season. 3. Pollination. 4. Soil moisture immediately after the blooming season. 5. Fertilizers. 6. Diseases. 7. Insects. 8. Thinning. 9. Summer pruning. 10. Spray injury.

Something has already been said in regard to the season previous to the light crop and the condition of the trees, but the following data in regard to set of fruit from spurs of various kinds will show the importance of having vigorous spurs, and vigorous spurs cannot be obtained without good foliage. These figures are taken from a paper on "The Abscission (or falling off) of Flowers and Partially Developed Fruits of Pyrus Malium, the apple," by A. J. Heiniche, Ithaca, N. Y., read before the Society for Horticultural Science at New York on December 29, 1916.

Baldwin Branch with 251 flower-bearing spurs

Average weight of 139 spurs which did not set fruit, 1.45 gramms.

Average weight of 112 spurs which did set fruit, 2.75 gramms.

Baldwin Branch with 88 spurs

Average weight of 30 spurs which held fruit less than two weeks, 2.94 gramms.

Average weight of 28 spurs which held fruit until the June drop, 3.29 gramms.

Average weight of 30 spurs which held fruit after the June drop, 4.27 gramms.

Baldwin Branch with 677 spurs

Number of spurs making more than 1 centimetre of growth during 1915, 320, of which 67.2 per cent produced fruit.

Number of spurs making less than 1 centimetre of growth during 1915, 357, of which 25.5 per cent produced fruit in 1916.

Baldwin Branch with 443 spurs

Number of spurs with 4 flowers, 50; percentage bearing fruit, 20.00.

Number of spurs with 5 flowers, 137; percentage bearing fruit, 40.9.

Number of spurs with 6 flowers, 266; percentage bearing fruit, 54.9.

Fallawater Branch with 59 spurs

Average weight of all spurs which produced 4 flowers, 1.76 gramms.

Average weight of all spurs which produced 5 flowers, 2.73 gramms.

Average weight of all spurs which produced 6 flowers, 3.36 gramms.

Baldwin Branch with 225 spurs

Average weight of 74 spurs with small conducting tissues (1 to1.4 mm in diameter, 1.50 gr.

Average weight of 112 spurs with medium conducting tissues (1.5 to 1.9 mm), 2.47 gr.

Average weight of 39 spurs with large conducting tissues (2.0 to 2.5 mm), 3.27 gr.

The above figures and others which might be quoted show that the largest fruit spurs set the largest proportion of fruit; that the largest number of flowers in a cluster was on the largest spurs. They also show that the largest conducting tissues or channels through which the sap flows were in the largest spurs, making it evident that the spurs through which there could be the best flow of sap, set the largest number of fruits. Not only is it important to have large spurs with good sap conducting tissue, but it is important to have an abundance of moisture available in the soil when the trees are in bloom and the fruit is setting.

Perhaps one of the commonest causes of short crops in some places is unfavorable weather at the blooming season; low temperatures and rain make very unfavorable conditions for the setting of fruit.

In bulletin 298 of the New York Agricultural Experiment Station, by Prof. U. P. Hedrick on "The Relation of Weather to the Setting of Fruit with Blooming Dates for 866 Varieties," in which the weather records and crops for the years 1881-1905 have been compared, these being based on the County reports of the Horticultural Society of Western New York, Prof. Hedrick states:

"In New York, unfavourable weather is probably the predominating one of the several factors which cause the loss of fruit crops during blooming time."

"Late frosts ruined the fruit crop in Western New York in 1889, 1890, 1895 and 1902. The fruit crops of 1884, 1886, 1891, 1893, and 1903 were seriously damaged by killing frosts. Besides the above years, pears, peaches and plums were more or less injured by frosts in 1892, 1896, and 1900. Fruits were injured at blossoming time by frosts in thirteen years out of twenty-five under consideration."

"Wet weather almost wholly prevented the setting of fruit in New York in the years 1881, 1882, 1883, 1886, 1890, 1892, and 1901. Rain is mentioned as one of the causes of the poor setting of fruit in the years 1888, 1889, 1891, 1893, 1894, 1898, 1905. Of the seasons given above moisture came at blossoming time in the form of snow in 1899 and in 1891. Gales of wind accompanied the rain 1881, 1882, 1883, and 1905. The rainfalls came in periods of prolonged cold weather in the years 1881, 1882, 1883, 1886, 1888, 1889, 1891, 1892, 1894, 1898 and 1905. In 1890 the rainy weather was hot and sultry. Frosts and cold weather accompanied the rains in 1888, 1889, 1890, 1891 and 1892."

"Rain and the cold and wind that usually accompany it at blossoming time cause the loss of more fruit than any other climatal agencies. The damage is done in several ways. The most obvious injury is the washing of the pollen from the anthers. The secretion of the stigmas also is often washed away or because so diluted that the pollen does not germinate. It is probable that the chill of rainy weather decreases the vitality of the pollen and an excess of moisture often causes pollen grains to swell and burst. Rain also prevents bees, and insects from carrying pollen."

Most fruit growers now know how pollination or fertilization of the flowers takes place. Just as the flowers are opening, if conditions are favourable, the anthers containing the dust-like pollen burst open and the pollen is shed either onto the stigma of its own flower or is carried by insects to another flower or flowers where it adheres to their stigmas. The individual grains of pollen are very small and a number of them, under favourable conditions, reach the stigma which, when it is in the best condition, is moist, and holds the pollen grains better than if dry. If conditions remain favourable these tiny pollen grains germinate, or at least some of them do, and the strongest and most active throws out a tube which pushes down through the soft stigma and style until it reaches the ovule and finally the mbryosac, and when its cytoplasm meets that of the female organ fertilization takes place. An apple blossom has five stigmas and pollen tubes may grow down all of them.

Now, if certain conditions are unfavourable, the stigmas of self-sterile varieties may not receive any pollen from other varieties to fertilize them and little or no fruit will set. Again, if certain other conditions are unfavourable, pollen, if it germinates at all, may not have sufficient vigour to develop a pollen tube which will reach the embryo sac, and again, as has been stated above, pollen grains may swell and burst without germinating.

Mr. F. Adams of the Botanical Division at Ottawa found by experiment that there was only slight germination, and the pollen tube only partially developed at a temperature of 40 to 44.3° F. and the most favourable temperature for the germination and development was from 69.8° F. to 73.6° F. Prof. Sandsten of the Wisconsin Experiment Station found the best temperature for the germination of apple pollen to be 75.2° F., his experiments having ranged from 59°

(Continued on page 323)

Prospects for the 1917 Potato Crop

Present conditions indicate a potato shortage next year accompanied by fair prices. Aroostook buyers are reported to be contracting for next season's crops at $2.50 per barrel instead of $1.00, which was the ruling contract price of last year.—"Maine Farmer."

It is exceptionally difficult to form any definite opinion concerning the prospects for the New Brunswick potato crop of 1917, as the total yield depends to a large extent on numerous factors which we cannot, or have not, learned to control. There are, however, certain conditions existing which are likely to influence the acreage planted and the probable yield during the coming season.

Many of these farmers indicate that the average New Brunswick farmer may well consider and conclude that this crop may prove quite remunerative during the coming season.

First let us remember that our potatoes help, even in a small way, to supply the markets of the whole of North America. Therefore, a shortage in the West Indies, or the Southern States, will more or less influence the value of the crop in New Brunswick and the greater this shortage, the greater will be the value of our crop. New Brunswick produces annually about 8,000,000 bushels of potatoes, while Canada produces approximately 75,200,000 bushels, the United States and West Indies, nearly 400,000,000 bushels annually. Therefore, New Brunswick produces about one-tenth of the Canadian potato crop, or less than one-fiftieth of the total production in North America. Hence, an over production in New Brunswick will not materially affect the total production in the area of which we are a part, nor will it greatly reduce the price. On the other hand, anything which reduces the crop over the whole area, will tend to make a general scarcity and consequently higher prices will prevail. Let us realize then, that a large acreage in New Brunswick is not going to produce a glut on the market, accompanied by low prices.

What then are the existing conditions which are liable to influence the potato crop in North America? (1) Price of seed stock. (2) Quality of seed stock. (3) Supply of the necessary fertilizer. (4) Necessary labor. (5) Probable value of the crop. With the exception of the last condition, all tend to show that we may have a scarcity during the coming season.

Price of Seed Stock

The price of seed being one of the initial costs, influences to a large extent, the acreage planted. The average New Brunswick farmer planting six barrels of potatoes valued at $5.00 per barrel, will expend $30.00 on seed alone. Moreover, the Ontario and American farmer will pay $8.00 or more, making the cost of seed approximately $50.00 per acre. This condition will tend greatly to reduce the acreage over a very large area.

Quality of Seed Stock

The quality of the seed stock is one of the most important factors in production and unless good seed is planted, a comparatively poor crop may be expected. This is particularly true in many sections. The unfavorable conditions prevailing during the last two years has probably weakened much of the stock in other sections of Canada and the United States, and owing to the scarcity and high price of good seed, much poor stock will be planted, which is almost sure to result in a low yield unless something is done to supply good seed.

Fertilizer

The scarcity of fertilizer containing a sufficient supply of potash will undoubtedly react to some extent on the crop. Many farmers will plant a smaller acreage on a good quality of fertilizer, while others will endeavor to get along without any, or use reduced quantities. This condition will be most marked in sections where the growers have been depending on commercial fertilizer, and to a smaller extent where barn-yard manure or clover crops have been regularly ploughed under.

Labor

The potato crop requires a good deal of hard labor, particularly in sections where modern machinery is not used, and the scarcity of farm laborers will undoubtedly further reduce the acreage planted and may also reduce the yield per acre, due to poor cultivation. This scarcity will not be felt in sections like New Brunswick and Maine, where the farmers have the necessary potato machinery, but it will be very acute in many large areas like Ontario, where hand-planting, hand-hoeing and digging are quite extensively practiced.

Value of Crop

The above four conditions indicate a small crop, but the possibility of receiving a high price will induce many to plant more extensively. However, indications at present are that this will not offset the scarcity due to other causes.

In view of the fact that these conditions exist in an aggravated form outside New Brunswick, in large potato growing areas, the total crop for North America will be even smaller than during the past season, and farmers who have large quantities for sale will likely reap a just harvest.—G. C. Cunningham.

The N. B. Apple Packing School a Grand Success

Men who know how to pack apples are needed in this province and the demand for such men is bound to increase. This is the reason why the Horticultural Division, of the New Brunswick Department of Agriculture, organized and advertised the Four Days' Apple Packing School, held in Fredericton, February 27th to March 2nd.

The object of this course was to furnish an opportunity for interested parties to learn the proper grading of apples, and the packing of them into both boxes and barrels, by doing the actual work themselves under competent instructors for as many hours as possible during the four days. Demonstration of packing are practically useless, unless the students have practice in the actual work themselves long enough to learn, remember and be able to put into practical use later in their own orchards.

Some fifty students were in attendance and hard at work packing under the direction of the instructors, and they worked hard and determined to take home a good working knowledge of apple grading and packing that will enable them to pack their own fruit to much better advantage.

The instructors were Mr. P. J. Carey, of Toronto, packing expert and demonstrator of the staff of the Federal Fruit Division, and Mr. George H. Vroom, chief fruit inspector for the Maritime Provinces, assisted by Mr. Gorham and officials of the Provincial Horticultural Division.

Mr. George E. Sanders, officer in charge of the Dominion Entomological Laboratory, Annapolis Royal, N. S., gave two lectures on spraying. The first on "Insect and Fungous Enemies of the Apple" and the second on "Sprays and Spraying."

In addition to his entomological training and experience Mr. Sanders is a practical apple grower, and has for some years been conducting spraying experiments for the Dominion Entomological Branch in the Annapolis Valley. No man in the Maritime Provinces is better qualified to speak on this question of spraying. Mr. Sanders' lectures on spraying were very largely attended and closely followed and the best our growers have heard on the subject. Mr. Sanders had on exhibition specimens of injury to the apple by the various insects, also six cases of specimens of the eggs, larvae, pupae and adults of some of the most common orchard insects.

He stayed throughout the entire course, and was eagerly consulted by the individual fruit growers on spraying problems.

From the standpoints of attendance, interest and enthusiasm, the course was easily the most successful of its kind ever held in the province.

On the evening of February 29th, the New Brunswick Fruit Growers' Association entertained the instructors and all those attending the course at a very enjoyable supper and smoker at the York Hotel.

In opening the programme, Mr. R. A. Fillmore, president of the association, dwelt on the necessity for co-operation, pointing out that for success the days of independent and isolated effort have long since passed, and that concerted action is essential to achieve our aims and meet the competition which is ever growing keener.

Address by A. G. Turney.

Mr. A. G. Turney, Provincial Horticulturist, and secretary-treasurer of the association, spoke as follows:

Mr. President, Members of the Association and our Guests:—

I am very glad indeed to have the opportunity of addressing you on this occasion on the subject of fruit growing, a subject for which a common love and interest has brought us together this evening.

First of all I desire to express my deep appreciation of the splendid attendance that we are having at the Apple Packing School and also at the large, earnest and enthusiastic gathering here tonight, in which no fewer than nine counties are represented, namely, York, Sunbury, Queens. Kings, Westmorland, Albert, Charlotte, Carleton, and Gloucester. To my mind both these meetings have a meaning and an importance far deeper than appears on the surface, and I think that in reality they are the evidence, the expression, as it were, of a newer, deeper and more promising interest in the development of fruit growing in New Brunswick, and as such they are very encouraging to myself and the department, as they must also be to you.

The Apple Packing School was not organized and is not being held merely as a thing complete in itself that finishes on March 2nd, but rather is it the first gun to be fired in a new campaign for the better marketing of New Brunswick apples. The second step in that campaign should be the provision this year of additional fruit inspection service. I have been working towards that end and am hopeful that it will be accomplished.

1. Fruit growing in New Brunswick has reached the stage where, although the amount of fruit placed annually on the market is still small, we feel that in the interests of further development the fruit should reach the consumer in a more favorable condition, and at the same time that the growers should secure better returns.

2. These results may be obtained by educating the growers to pack up to the requirements of the Fruit Marks Act, and giving them adequate protection from both local and imported packs and packages falsely marked or marketed.

3. Failure to secure these desired results has already retarded further development of the industry and will continue to do so.

An Inspection Service.

4. This division has not felt itself able to attack these problems of better packing and improved markets with the proper promise of success because its officials have not, of course, any authority or standing in regard to the enforcement of the Fruit Marks Act. Hence our desire for an inspection service under the act—to be applied at the points of production and packing, as well as in the markets.

If we succeed in obtaining that service then it will be possible and profitable for my division to supplement it by putting into the field competent packing instructors, who although having no authority under the Fruit Marks Act, would still be able to materially assist the work of the inspectors. The improvement in the packing of our apples which these steps would undoubtedly bring about would then make it possible for us to ship to other Canadian markets if so desired. But first of all we must have the improvement in packing. The very worst thing that could possibly happen to the industry would be to have our initial shipments to outside markets reach them in poor condition and poorly packed. It might be years before we could overcome the poor first impression thus created. When we begin to ship to outside markets we must send only such fruit and that so packed as will create a favorable impression, establish a reputation for quality, and a demand for more.

To Improve Prices.

As evidence of what can be done in certain years to improve prices on the local markets and at the same time procure good returns let me quote the details of sale for one car of apples shipped to Montreal last December by Mr. Gilman.

1916. Car 280710.
22.12.
35 No. 1 Alexander; 20 at $3.75 and 15 at $4.00..$135.00
36 No. 2 Alexander; 16 at $3.40 and 20 at $3.50.. 124.40
44 No. 3 Alexander at $3.15 ..... 138.60
5 No. 1 Wealthy at $4.00 20.00

10 No. 2 Wealthy at $3.40	34.00	
52 No. 3 Wealthy at $2.75	143.00	
3 No. 1 W. River at $3.75	11.25	
5 No. 2 W. River at $3.30	16.50	
5 No. 3 W. River at $3.00	15.00	
4 No. 1, McMahon's White at $3.75	15.00	
1 No. 2 McMahon's White	3.25	
		$656.60
Charges	100.70	
Cartage	14.00	
Other expenses	65.60	
		180.30
Net proceeds		$475.70

The car in which this shipment was made was a very large one and could have held another 100 barrels, reducing the freight cost from 50c to 35c per barrel. Also, the consignees advised that had the shipment been made a month earlier still better prices would have been secured. Mr. Hatheway also made an l.c.l. shipment to Montreal with satisfactory results and perhaps he will refer to it later on. This subject of marketing is a very large and important one, but I will say no more about it as we have with us this evening gentlemen who have had a great deal more experience than I have in that phase of the business and I hope that we shall hear from them before the evening is over.

Horticultural Division.

Now gentlemen, I wish to say a few words about the Horticultural Division and the Department of Agriculture, and then as to the work and objects of the Horticultural Division and yourselves, and the relation between us. It is common knowledge that, prior to 1910, the Government had given little or no attention to fruit growing. In February of that year, largely as a result of the efforts and recommendations of Mr. Hubbard, I was appointed as Horticulturist. Comparatively speaking, the Horticultural Division grew rapidly. I was alone in the work for the first fifteen months, and then was fortunate enough in June, 1911, to secure Mr. Gorham as a temporary assistant, and he was appointed to the permanent staff in 1912. Then Mr. Flewelling came to me as a temporary assistant in the fall of 1912, and received his permanent appointment in June, 1913. Each year up to the present time I have had temporary assistants for some weeks in the spring and fall. Unfortunately, however, we lost the services last March of Mr. Gorham, he going, first, to the staff of the Provincial Normal School and, later, to the Experimental Station to assist Mr. Hubbard. I had already lost the services of Mr. Flewelling, although I hope he will eventually come back to us, as he went overseas in November, 1915. So you see that today, largely as a result of war conditions, but not altogether so, the division has lost its two permanent assistants, and is reduced to its original strength. I feel very strongly that your interests and the interests of the work require that the maximum strength of the division should be re-established as quickly as possible, and I believe that the Secretary and Minister of Agriculture will be in sympathy with that feeling. But the points that I wish to make clear to you in this connection are these: That although during the past six years the funds available for expenditure on aids to farming have trebled, there has been a still greater corresponding increase in the number of branches or phases of farming to which the Government is giving aid and paying attention. In March, 1910, the department consisted of the Commissioner, the Secretary, Mr. Hubbard, two Dairy Superintendents, and myself; and, shortly afterwards, Mr. Jones was appointed as Poultry Superintendent. Since then many appointments have been made. Mr. Newton, as Director of Agricultural Schools and Chief of the Soils and Crops Division, and Mr. B. T. Reid as his assistant. Both of these gentlemen are now at the front. Mr. Durost, the Instructor of Soil Fertility and Beekeeping. The late Mr. Ford, who made the supreme sacrifice in Flanders last June, as Provincial Animal Husbandman. Mr. R. P. Steeves, as Director of Elementary Education, and Mr. Robinson as his assistant. Mr. Morton as an assistant to Mr. Daggett; Mr. N. W. Eveleigh, as assistant Dairy Superintendent, and lately, Prof. J. W. Mitchell, as Chief of the Livestock and Dairy Division. In addition to these appointments to the permanent staff two Agricultural Schools have been built and equipped, temporary assistants have been employed and attention has been given to the encouragement of farm drainage, extension of field crop competitions and seed fairs production of clover seed, and the provision of lime for agricultural purposes.

Object of Fruit Growers.

And so, while I believe that the requests for funds are considered on their merits, it is obvious that there is more competition in securing the appropriations for different branches of agriculture. Therefore, you should not forget that those farmers, who, representing a certain line of farming, show in the most acceptable and convincing manner possible there appreciation of the aid already given by the department and their eagerness for a continuance and extension of that aid, are more likely to secure the necessary funds to assure it.

Now a few words as to the function and objects of the fruit growers and the horticultural division. We have been carrying on a campaign for the improvement and extension of orcharding in New Brunswick. What are the units that we have to work with to bring that campaign to a successful issue. Well, first of all, there are what we might call the natural conditions—suitable soil and climate and a favorable position with respect to transportation facilities. I need say no more about these factors. The fruit growers themselves constitute the second unit, and the horticultural division may be considered as the third and last unit. If you will permit me to liken the last two units to a wheel, then the horticultural division may properly be considered as the hub, and the fruit growers as the spokes of that wheel. It is the business of the hub to units the growers into one solid structure and consolidate their action towards the securing of a given aim; the function of the spokes, as represented by the fruit growers, is to strengthen and enlarge themselves or their orchards and so extend the circumference or rim of the wheel, or in other words to extend the industry itself.

Modern Methods.

Each New Brunswick orchard owner here this evening is a member of the Horticultural Division, and, further than that, he is one of the practical demonstrators of the possibilities of profitable apple production in this province upon whom the enlargement and improvement of the industry directly depends. If this course and this meeting lead you to give your orchards better attention and apply to them modern and improved methods of orchard culture, then we will have created just that many more centres for the diffusion of such knowledge.

You gentlemen here tonight constitute by far the greatest and most important of the three factors that we have to work with. I want to say to you that the advancement to be made is up to the fruit growers and not to the Government. The division has been created and is here for the purpose of co-operating with you and assisting you in the carrying out of your work and the advancement of your interests. It cannot be gainsaid that the progressive orchardists and the profitable orchards are the strongest factors and the biggest assets that this province has today in its campaign for more and better orcharding; they are the biggest advertisement of the suitability of our climate and soil and the most convincing argument for others to follow the example and so extend the industry. Let us have more progressive orchardists and more profitable orchards.

I feel that I should say a few words about our neglected apple orchards. They occupy the rather unique position of being at the same time an obstacle to progress, and an evidence of favorable natural conditions. We all know what they are, but we might well stop for a moment and consider the question why they are. As I am speaking this evening to a gathering of practical growers it will not be necessary for me to more than touch upon some of the reasons, but there are one or two that I wish to emphasize as being the main factors for us to consider. A first reason is: The wrong selection of varieties, soils, and sites. Years ago many thousands of trees of the Duchess, or New Brunswick variety, were planted out in this province. That variety, as you know, is a perishable one, having a very short season, and it is also very hardy, thrifty, and an abundant producer. The result was that many of these trees came into bearing with absolutely no provision made for the disposal of the product. Consequently the local markets were gutted, prices reduced to a point where in many cases it did not pay to harvest the fruit, and hence the orchard fell into neglect. Since that time there has been considerable improvement in the choice of varieties, and there is now less tendency to plant early or unsuitable kinds.

Much Remains to be Done

Nevertheless much remains to be done, and we ought to foster the adoption of what we call "community planting," that is, the planting of a very limited and selected number of varieties of proven adaptability and merit in a given area. The wrong selection of soils and sites while perhaps, partly responsible for neglected orchards, is probably more responsible for failure to successfully establish orchards. A second reason is the increasing prevalence of insect and fungous pests. It is now well established that no man can be a successful apple grower without spraying. Although making a little headway we are behind in this part of the business. Education and the example of successful orchardists are producing results. Much of the spraying that is done isn't done thoroughly and we don't spray often enough. But every year orchard owners are being confronted with the necessity of spraying or losing their orchards, and the sooner the unsprayed orchard goes out of existence the better for the industry and those in it. A third reason: Poor market—a condition to which I have already referred. A fourth and very important reason is the unsuitability or suitability of the man. Many an average general farmer is temperamentally unsuited by environment and experience to work with fruit crops. The view points of the fruit grower and the general farmer towards crop production are essentially different.

Success in Fruit Growing

To be successful in fruit growing one must come into closer contact with the crop than is necessary to be successful in general farming. Orchardists have a more intimate knowledge of the individual fruit tree than the farmer has of the individual plant of grain or root crops. Many men become enthused with the idea of owning an apple orchard and the profits to be obtained therefrom, but after planting the trees they rapidly find that the price for success is more industry, more intelligence, greater attention to detail and greater patience than the growing of ordinary crops. Such men are temperamentally unsuited for the work—they gradually drop out of the game and their orchards fall into neglect. A fifth and perhaps the most important reason of all is the size of the orchard. If any of you were to go through the province this coming summer I feel sure that you would find, with few exceptions, that the smaller the orchard the more neglected it is, and the larger the orchard the better attention it is receiving. In other words the amount at stake has a definite relation to the attention given, and it would seem that small plantings favor the neglect of the farmer's orchard. A large number of the small orchards in this province were planted with the object of providing sufficient fruit for home use and marketing the surplus. The result has been that the orchard produces more than is needed for home consumption and not enough to induce the owner to give it proper attention and market the product correctly. The orchard is not big enough to utilize efficiently even a small equipment. In other words the portion of the farm devoted to the orchard is not, in the mind of the farmer large enough to justify any greater share of labor than is required by the same acreage planted to an average farm crop. The inevitable result is a neglected orchard. You have been doing and can continue to do something towards remedying that state of affairs. Your success awakens the curiosity of your neighbors and gradually creates in them a realization of the possibility of their orchards and a desire to give them better attention. This means that in favorable years you may be able to handle a part of their surplus crop and thus stimulate their interest and lead them to plant out more trees, and give them better care.

Small Orchards

The future of successful apple orcharding in this province lies in the small commercial orchard on the general farm, and I say that the men, who is by temperament suited for the work, may safely and very profitably engage in apple growing one a reasonably large scale on the general farm in New Brunswick. His objects should be to establish anywhere from three to ten acres of orchard, but he should go slow at first, setting out perhaps one acre the first year, and adding to his orchard as his knowledge increases and his ability to make a success of it is proved.

I venture to state that there is no potential producing unit on the average farm of New Brunswick that is so neglected and left so utterly to its own unassisted efforts as the old apple tree, and I also venture the statement that there is no other unit, given the proper care and attention, that is so profitable as that old apple tree. A farmer will neglect the apple orchard in favor of almost every other job on or off the farm, even when the dollars and cents returns from that other job are as nothing compared with the returns to be secured by putting the same amount of labor on the orchard at that particular time. By all means let us give the apple orchard a better chance.

The N. B. F. G. A.

A word as to the New Brunswick Fruit Growers' Association. This organization, while yet in its infancy and deficient in many respects, is nevertheless doing good work for the advancement of your interests. It compares more than favorably with the other farmers' organizations in the province. For the past four years we

(Continued on page 325)

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

MARCH 20, 1917.

DATES OF ISSUE.

April 10-24
May 8-29
June 12-26

READY SALE FOR OFFSPRING OF RECORD PRODUCERS

Professor J. W. Mitchell intimated at the annual meeting of The New Brunswick Farmers and Dairymen's Association recently held in Fredericton that he would favor the introduction of a sliding scale of bonuses to agricultural societies in the purchase of purebred dairy sires. The scale will be governed by the production records of the dam and the ancestry of the sire of the animal purchased. For instance if the dam has a record of 15,000 lbs., the total bonus paid will be much more than the bonus paid if the dam's record is only 10,000 lbs. Again the bonus will be greater for the offspring of a 10,000 lb. cow than the bonus on the offspring of an 8,000 lb. cow.

The increased bonus will be one big factor in inducing agricultural societies to purchase bulls from high record dams and record making ancestry. The effect will be far reaching. The Maritime Farmer would suggest that no bonuses be paid on purebred scrubs by which we mean purebreds from non-profit producing ancestry.

We learn from a number of breeders who advertise in The Maritime Farmer that buyers are getting more exacting all the time in regard to breeding and individuality. This is surely a sign of the times and the breeders who neglects to keep records of the production of his cows will find it an increasingly difficult matter to dispose of their surplus stock.

The breeder who has stock from record producers for sale and who advertises judiciously will not experience any difficulty in making good sales.

On another page of this issue the reader will find extracts from a letter recently received from S. Dickie & Son, Central Onslow, N. S., who persistently and consistently keep records of the production of the individuals in their herd and advertise judiciously in the columns of The Maritime Farmer. It contains food for thought for breeders who are slackers in the advertising line.

The value of milk records is very clearly shown in a recent auction sale of farm stock in England. The milk record certificates issued by the board of agriculture were referred to by the auctioneer and handed by him at the sale to the purchasers. The cows are reported to have made $10 to $20 per head more than they would have done had they been sold without certificates, and the seller was satisfied that the possession of the certificates for the cows resulted directly in a net increase in the total prices obtained of approximately $1000.

STUDY THE SEED CATALOGUES

There is every indication that seeds will be scarce and high. Have you secured your supply? If not, do you know where you are going to get it? If you cannot secure your supply near home it is not a moment too soon for you to place your order with some reputable seed house. You will find the advertisement of several reliable seed houses in the columns of the Maritime Farmer. The seed catalogues they issue each year are works of art, but you should admire them for the possibilities they offer for studying over and choosing suitable seeds for the farm and garden. Look to the seedsmen to tell about the virtues of their seeds, and then choose those best adapted to our conditions of soil and climate.

We do not believe that many people can go into a store, look along the colored boxes of seeds on the counter and select hastily their seed as advantageously as they can by going quietly about it at home during the winter evenings with the catalogs before them. One must study the little points and weigh the advantages and disadvantages of each type or variety if he would secure the best results at harvest time. One cannot decide this point in a few minutes.

But you can use the same kinds of seeds you've always used! Of course that is true, but perhaps some other variety may be better adapted to the conditions, there may be some other kind of seed it would be well to try on a small scale. Good, new seed of strong vitality is wanted. The reliable seedsmen are specialists in their line, just as are doctors and lawyers, and the information they give is often quite valuable in many ways. While good seeds are absolutely necessary for the production of maximum crops it is also necessary that they be chosen with a view to adaptability, and be on hand when needed. Therefore, get the catalogs ready, study them leisurely and intelligently, and buy the seed early while they are still plentiful.

PENALTY FOR NEGLECTING AGRICULTURE

The March 3rd issue of the New England Homestead says:—

"England is now paying the penalty for neglecting her basic industry for three-quarters of a century past. She finds it necessary to prohibit exports of many foods and luxuries, to guarantee higher wages to farm labor and high prices to farmers for their crops for several years to come. The purpose of the new programme is two fold:—

1. To encourage the home production of food which she must have or starve.

2. To make up the loss of shipping, due to warfare and the shortage in her ships' capacity to handle men and munitions for war purposes.

It is the most striking illustration in human interest of the supreme folly for any nation to neglect its agriculture. For wheat the government is to guarantee the British farmer $1.80 a bushel for this year, tapering off to $1.35 at the end of five years; oats $1.15 down to 72 cents; and potatoes for this year 77 cents. English farm laborers are to receive a wage of 25 shillings a week, against present wage of 14 to 18 shillings, or in some instances nearly double."

The foregoing figures and conditions of affairs should surely be an incentive for the farmers of Canada to put forth every effort to do their utmost for the production of bumper crops this year.

* * *

Manure stored in the open barn yard loses a considerable portion of its nitrogen through fermentation, and its potassium and other elements through leaching. The loss may be avoided by hauling the manure to the field as soon as it accumulates. It pays to conserve the fertilizing elements produced on the farm at all times, but more so when the commercial fertilizers are so expensive and hard to get.

* * *

The DeLaval Monthly, official organ of the DeLaval Separator and Dairy Supply Co., says:—

The dealer who keeps himself posted and up-to-date on modern dairy methods will get a great deal closer to his farmer customers, and they will have more confidence in his advice, not only in the selection of dairy machinery, but of other farm implements and supplies.

A good way to keep in touch with agricultural progress is to subscribe to a good farm paper. Many of the state and national farm papers devote a good deal of space to dairying, and it will pay every farm implement agent to become a subscriber to one or more of these papers.

* * *

Does it pay to keep sheep? Read the experience of W. M. Lea, one of the foremost dairymen of the Island Province in a recent issue of the Maritime Farmer. Mr. Lea has one of the finest Holstein herds in the Maritime Provinces. His records at the creamery where he disposes of his cream shows a high producing average per cow. He is a close observer of the signs of the times and as such has again established a flock of sheep on his farm. He has evidently solved the fence problem and luckily is not pestered with the dog nuisance.

* * *

A Maine State Agriculturist stated recently that "the farmers of Aroostook County had learned to plant better seed and that they would not accept as a gift now seed that they used to use for planting." It will be a great boon for the Maritime Provinces when the rank and file of our farmers think and act along similar lines.

* * *

The fertilizing value of the total excrement from horses is about $20.00 per animal per year, and from cattle about $25.00, according to the chemical department of the Nebraska Agricultural Station. Do not lose much of this value by being careless about the manure pile.

* * *

The wise man is he who places his orders for seeds and other requisites for the planting season as early as possible, so as to allow for delays in transit, and thus avoid the waste of golden moments when the season for field work arrives.

* * *

One of the good things that the year 1917 holds in store for New Brunswick is the replacing of the Scot Act by Prohibition. There is a movement on foot for Dominion wide prohibition and we believe it is sure to come.

OFF CROPS AND THEIR CAUSES

(Continued from page 319)

F. to 96.7° F. Prof. Kraus of the Agricultural Experiment Station, Corvallis, Oregon, states that 65° to 83° F. may be considered as suitable for the majority of tree fruit pollen. It will thus be seen that should the temperature run pretty regularly below 70° F. during the blooming season fertilization is not likely to be good. Prof. Hedrick in New York State Bulletin 407, published in May 1915, on "The Blooming Season of Hardy Fruits" states that during the season of 1915 "Mr. W. F. Friedman, a student assistant at this Station has found that pollen grains of practically all fruits burst and will not germinate in water," showing what effect excessive moisture grains might have in preventing germination of pollen. It is further stated in the same bulletin "From this work, extending through the whole blooming season of 1915, there could be little doubt but that the action of rain on pollen is quite a potent factor in preventing a set of fruit as its injurious effect on the stigmatic juices." Sandsten found that pollen burst, when in masses, during warm rains. Adams found pollen germinatic in the anthers before being shed. This might occur during a fairly warm moist period. It will be seen from the foregoing that not only is moderately warm weather necessary during the blooming period, but that bright sunny weather is desirable also, and a long spell of cool wet weather beginning when the flowers are opening is very unfavourable to pollination. In addition to the cool wet weather, unfavourable to the germination of pollen and unfavourable to fertilization, there may be frost. Apple blossoms in bud will stand more frost than when they are fully open. When the petals fall less frost will cause injury than when the trees are in full bloom. From five to seven degrees Fahrenheit of frost are likely to cause severe injury to apples when in full bloom, and after the bloom has fallen, from four to five degrees may do much harm. Much depends on the length of time the flowers are frozen and on the weather following the freeze. If the flowers have been injured by frost, an examination after the petals are open, if the frost occurs when they are in bud, will reveal the centre of the flower or pistil discoloured or brownish. The fruit will not set when flowers are injured in this way. The frost may, however, come after fertilization has taken place when the fruit may set.

Experiments have been made with orchard heaters at the Experimental Farm at Ottawa for several seasons and while, as yet, no results have been obtained which show an increased crop from the use of the heaters, as the weather has not been cold enough at the blooming season when the heaters have been in use to demonstrate their value, yet it has been shown that the temperature can be raised considerably. On the night of May 20, 1915, sixty-three Competition heaters were used in an apple orchard over an area of 32,564 square feet, or at the rate of 80 per acre. At 1 a. m. an alarm came in that the temperature had reached 34° F. and by 1.30, when the heaters were lighted, it had fallen to 32° F. The ground temperature that night fell as low as 31° outside the orchard, while the ground temperature inside the orchard was never below 34° after the heaters were lighted. At three feet from the ground the temperature outside was 32°, while inside it never fell below 36° after lighting the heaters. On May 27 the heaters were lighted at midnight when the ground temperature was 32°, and 34° was registered three feet above the ground. By two o'clock the temperature outside stood at 28° on the ground and 32° three feet from the ground, while inside the orchard the ground temperature was 33° and the temperature three feet above the ground was 37°. On this night the heaters were used at the rate of only 60 per acre. This demonstrated that in an orchard of one acre, sixty heaters of the Competition type are capable, under certain conditions, of raising the temperature of the air surrounding the trees, 9 degrees. From our experience with six different types of heaters the following kind of a heater is recommended.

1. One with a large capacity, or not less than four gallons.

2. One with a good draft control. Proper control of draft is very important, for it allows the operator to increase or decrease the fuel consumption, as he desires, thus increasing or decreasing the amount of heat given off per hour.

3. Round heaters are preferable to square or longitudinal ones, as they do not warp so readily.

Cross-pollination.—It might be thought that enough had been said about pollination but there is still another important phase of it to consider. Experiments have shown at Ottawa that a large proportion of varieties of apples are self-sterile or practically so, and need pollen of another variety to ensure a setting of fruit. In 1915, for instance, of twenty-nine varieties tested, only five varieties set any fruit at all and only one was decidedly self-fertile, whereas when thirteen of the same varieties were cross-pollinated, only two failed to set fruit. Most of the pollination of apple blossoms is done by insects, hence it will be readily seen that if the weather is unfavorable for insects to work, fertilization is not likely to be good. Some varieties of apples, though self-sterile in one place, do not appear to be so in another, and this is being studied in order to learn the cause. In the case of some kinds and varieties of nuts, the pollen and the pistil are not mature at the same time, and one may be too far gone to effect fertilization before the other is ready. It is probable that further studies in pollination will show that this happens with varieties of apples and that certain climatic conditions will cause either the pollen or pistil to mature first, while, under other conditions, they may mature at the same time or one may remain in good condition long enough for the other to catch up. In studies of the pollination of pecans in Georgia, Prof. Stuckey informed me recently that one cause of self-sterility in pecan varieties was that the pistillate flowers were mature before the pollen bearing or staminate; with other fruits, and other varieties it might be reversed. From observations at Ottawa we believe that the stamens which bear the pollen mature quicker in high temperatures than the pistil, hence pollen of a variety might be shed before the stigma was ready. The pollen and pistils of some varieties may mature at different temperatures to others. These are things that have yet to be worked out. The fact, however, that cross-pollination among varieties is desirable has been well demonstrated, hence the importance of having favourable conditions for this to take place. Apple blossoms do not all come out at the same day and sometimes, if the weather is cool, the blooming season of one variety will continue for between two and three weeks or perhaps longer, but in a warm dry season it may only last five or six days. To be sure of the best conditions for cross-pollination it is desirable to have varieties beginning to bloom at the same time in the same orchard, and preferably have the rows alternating or say two rows of one variety to four of another, so that in case there is only a limited time when conditions are favourable for insects to work they will lose the least amount of time in pollinating. In some seasons when the weather is unfavourable for pollination there will no doubt be an advantage in having a variety that begins to bloom a little later than another as the pollen from it might catch the later blooms of the early variety at a time favourable to pollination when the main blooming season of two varieties blooming at the same time might be unfavourable. All these things are well worth considering in planting orchards.

Comparatively little is known yet as to the cause of the June drop of apples, which in some years is very heavy. This may be due to only partial fertilization, the pollen tube having germinated but failed to fertilize the ovary. It may be due to unfavourable weather or soil conditions which check the growth of the tree, causing a certain proportion of the fruit to drop. This checking of the growth might be due to water soaked cold soil or it might be due to very dry soil or it might be due to very cool weather. It has been stated that aphids cause enough irritation about the pistil to cause the apple to swell a little but not being properly fertilized it drops off later. But there is much to be learned about this June drop yet.

Soil Moisture at Blooming Time.—The importance of a good supply of moisture of soil when the fruit is setting was noticed at Ottawa in 1911, when there was a very hot dry time from the blooming season until well on into the summer and a relatively small crop set. It is important to plough a cover crop under early and start cultivation early in order to conserve moisture at that critical season of the year, in case there should be a dry time, as the loss of moisture from ground not cultivated and especially when there is a growing cover crop may be very rapid.

Fertilizers.—Little will be said in regard to the value of fertilizers in obtaining good crops as the results from the use of fertilizers might be quite marked in one orchard while in another where the soil was somewhat different it might be difficult to find any marked advantage in their use, but when it is known what kind of plant food the soil really needs the results may be quite striking. Such results were recently presented by Prof. Lewis of the Oregon Experiment Station at a meeting of the Society for Horticultural Science in New York on December 28, when he showed that by the application of 6.7 lbs. of nitrate of soda per apple tree a month before the trees bloomed, in soil lacking in humus and nitrogen, there was 160% more fruit set than on trees which received none. Just how the nitrate of soda caused the fruit to set is not clear. It dissolves rapidly and the trees would, no doubt, be taking up the nitrogen by the time the fruit was setting, when, perhaps, the extra vigour of growth caused by the nitrogen would cause a quicker flow of sap which would better ensure the young fruit getting an adequate supply.

Injurious Insects and Disease.—I shall refrain from saying much about the loss of crop by fruit not setting due to the Green Apple Bug, and Apple Scab and other insects and fungous diseases. The loss is, doubtless, very heavy particularly in some seasons.

Spray Injury.—Drenching of the trees with very strong or improperly made spray mixtures may cause such injury that the fruit will not set well. It is desirable to use the materials and formulas which have been well tested, and found satisfactory.

Results at Ottawa.—At the Experimental Farm at Ottawa records have been kept of the yields in gallons of each individual tree in the orchards since 1898, or for 19 consecutive seasons. The time when each tree began to bloom, was in full bloom, and when the bloom fell, has been recorded every year since 1899. The amount of bloom whether small, medium or large has been recorded every year since 1899. The temperature records have been kept since that time and also the daily sunshine records and rainfall so that we have an abundance of data on which to base the cause of the large proportion of good crops which have been obtained. The trees have been thoroughly sprayed every year since that time and they have never suffered to any great extent from either injurious insects or diseases until 1916, when in the early part of the season the scab on the foliage was very bad and what is quite unusual with us, there was some scab on the fruit of some varieties as well. In the 18 seasons from 1899 to 1916, inclusive, there has been a relatively light crop of some varieties every alternate year, there being one exception in the year 1905; thus certain varieties bore light crops in the years 1899, 1901, 1903, 1907, 1909, 1911, 1913, and 1915 while medium to good crops were produced in the other years. This would seem to prove that most varieties are alternate bearers, but on consulting our weather records, there appears to be good reason for the light crops in most of the years. Thus in 1899 the maximum temperatures ranged between 58 degrees and 61 degrees when the flowers were opening and it rained on four consecutive days. In 1901 the maximum temperatures were below 60 and it remained at that on four consecutive days during the blooming period. In 1903 the weather was excessively hot during the blooming time, the temperatures ranging from 82 to 91 on six consecutive days and the ground was very dry. The exception to regularly alternate off year came in 1905 when there was a good crop generally but we found that the maximum temperatures ranged between 70 degrees and 80 degrees most of the time, being quite favourable for pollination. The year 1907, the bloom was very late and the maximum temperatures ranged from 57 degrees to 67 degrees in the first and second weeks of June when the trees were in bloom and beginning in May and ending June 10 there were sixteen consecutive days when it either rained or was cloudy. In 1909 while the maximum temperatures were above seventy most of the blooming season, and the weather clear, the blooming season was late and weather was unfavourable for growth in June which may have prevented the fruit from developing. In 1911 it was very hot and dry in the blooming season, maximum records on successive days beginning May 18 being 86, 82, 92, 94, 94, and 87 degrees. This exceedingly hot dry weather is not, we believe, favourable to good pollination. It was an early blooming season in 1913 but when the flowers began to open the temperature fell and between May 8 and May 22, when most of the bloom was, there were nine days when it was below sixty and frost was recorded on four nights.

In 1915 the maximum temperatures ranged from 49 to 67, on four days it was below 60; once it went up to 77 during the blooming period. Frost was recorded on one night. This was an unfavorable season for the setting of fruit in many places in Ontario.

The years 1900, 1902, 1904, 1905, 1906, 1908, 1910, 1012, 1914, and 1916 were all favourable for the setting of fruit, the temperature being sufficiently high but not exceptionally high and the weather being clear most of the time.

It will be seen that the alternate

bearing which at first glance might be thought was due entirely to heredity or constitution is really a coincidence and that it is caused mainly by the approximate alternate favourable and unfavourable weather conditions at blooming time. It is true that the bloom has not been so heavy in these off years but there is usually some blooms and in a season favourable for pollination good crops have been obtained when the bloom was relatively light.

As bearing out our records in regard to the influence of the season on the size of the crop, let me quote the summary of observations made at the Woburn Fruit Experiment Station in England:

"The view that fruit trees tend to bear heavily and lightly in alternate seasons is often made the basis of a recommendation to thing a heavy crop borne one year, in order to obtain a better crop the succeeding year. It appears, however, that the tendency towards alternate cropping, as it may be called, is very feeble, and that there is, at the same time, an equally potent tendency towards consecutive cropping, that is, that a tree bearing particularly well or badly during one season will probably do so the same in the succeeding season, whilst the chief factor in determining good or poor bearing is undoubtedly the atmospheric conditions and not any innate tendency of the individual tree to either alternate or consecutive fruiting.

"In another case of apple trees where observations apply to over 5700 instances extending from 1904 to 1915 the tendency has been, with only one slight exception, towards consecutive bearing. But this tendency affects the results to only a slight extent, about 12 per cent, the remaining 88 per cent being attributed to peculiarities of the season, and not to the individual behaviour of the trees." Further—"The alternation of good and bad years has been uniformly exhibited to a most marked extent in some plantations available for observation over a period of 20 years. As the injury to these crops has nearly always been due to spring frosts, it is evident that the alternation of good and bad years is due to the tendency of such frosts to occur alternatively in consecutive seasons."

Cause of Good Crops at Ottawa:

Someone may now wonder, if there has been an unfavourable spring every other year at Ottawa, why good crops have been obtained much more

Ewing's Grass and Clover Seed

No. 1 Government Standard

has earned a high reputation for sure germination, sturdy growth and heavy crops.

We buy the seed from the districts which we have found produce the cleanest and best strains. Then we clean and re-clean it until it comes well within the Government Standard in freedom from those noxious weeds that are so easy to introduce to your fields, and so hard to eradicate.

Some of our famous Brands:

Ewing's "Canary" Brand Early Red Clover.
Ewing's "Eagle" Brand Late Mammoth Red Clover.
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Ewing's "Sun" Brand Timothy.
Ewing's "Moon" Brand Timothy.

All No. 1 Government Standard.

If your dealer does not handle Ewing's Seeds, write for prices and catalogue to 49
THE WILLIAM EWING CO. LIMITED, *Seed Merchants*, McGill Street, MONTREAL.

in 1888 beginning in 1902—69½, 43, 72, 96, 75, 52, 81, 78, 97, 94, 50, 74, 143, 109, 136, an average of 85 gallons or 3½ barrels per year for 15 consecutive years. Charlamoff planted in 1888 beginning in 1902—66, 6, 106½, 33, 81, 33, 103, 38, 97½, 15, 108½, 25, 133, 22½, 123½, an average of 66 gallons or 2¾ barrels per year for 15 consecutive years, the lighter crops being in the unfavourable seasons.

Antinovka, one of the hardiest Russian apples and one that is most extensively grown in the colder parts of Russia, has made a wonderful record. Planted in 1888, the yields from 1902 are 57, 7, 88, 68, 105, 84½, 84, 77, 112, 65, 113,—It had a large crop the next year, 1913, but the yield was not recorded), 152, 116½, 93, an average for the fourteen years of 87 gallons or 3⅝ barrels per year.

McIntosh—Planted 1890, the yields from 1902 are 71½, 94, 12, 109, 3, 109, 41½, 184, 50, 166, 55, 145, 112, 44, 149½ an average of 90 gallons or 3¾ barrels per year.

Wealthy—Planted 1888, the yields from 1902 are—21½, 35½, 60, 60, 65½, 33, 69½, 12½, 62½, 15½, 93½, 12, 114, 24, 124, an average of 54 gallons or 2¼ barrels per year.

All the trees of the above mentioned varieties did not yield as good crops as regularly as those given above but these and others are the varieties which assured us good crops in bad seasons.

There are undoubtedly some varieties of apples which bear in alternate years and which have no flowers in the off year. Tetofsky is one of these, there being an off year regularly, alternately from 1899 to 1916 except in one off year when there was a slight amount of bloom. The Tetofsky goes very much to spurs and bears very heavily in alternate years.

Recommendations

From the foregoing data and other information, we make the following recommendations for obtaining the maximum number of good crops:

For the men who intends planting an orchard, we advise planting on a slope where there will be a good circulation of air avoiding pockets and flat land where frost will settle. In blooming time the temperature on the slope may be 9 to 10 degrees higher than that on the level and even regularly from some varieties. We believe it to be due to the fact that a large proportion of the varieties now growing at Ottawa are very hardy, and the flowers are able to withstand adverse climatic conditions better than the more tender sorts. Take the following yields in gallons for instance of individual trees, which if divided by 24, will give about the number of barrels each year. Duchess of Oldenburg planted in 1888. Following are the yields from a certain tree for the years 1902-16 consecutively in gallons—63½, 47, 89, 70, 111½, 68, 100, 52½, 111¾, 93, 149, 49, 132, 69, 132½ an average of 89 gallons

THE MARTIN
DITCHER AND GRADER
DIGS YOUR DITCHES
GRADES YOUR ROADS
EASILY
QUICKLY
CHEAPLY
REVERSIBLE
ADJUSTIBLE

PAYS FOR ITSELF IN ONE DAY
DOES THE WORK OF 50 MEN
SEND FOR FREE BOOKLET
THE PRESTON CAR & COACH CO LIMITED
90 DOVER ST. PRESTON CANADA

Concrete Machinery for Farm Use
(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself

Also Crushers, Brick, Block, Tile Machines, Mixers, etc. New and Second Hand Gas. Engines.
Ask for Catalogue A.
WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO. Dartmouth, N.S.

It costs more to put the "pick of the wheat" into

PURITY FLOUR

But it makes

"MORE BREAD AND BETTER BREAD"

220

High-Grade Seeds

With bright prospects ahead for good prices on Vegetables, and all Farm Products, our farmers should feel encouraged to plant improved varieties of seeds, so as to increase their crops.

DUPUY & FERGUSON'S VEGETABLE SEEDS

Long known for their superior quality and productiveness, have greatly increased in demand and popularity.

Dupuy and Ferguson's Grass, Clover and Farm Seeds are of tested germination and superior qualities. Write for prices.

Dupuy and Ferguson's Descriptive Catalog gives valuable information about all Seeds, for the Farm and Garden.

Mailed free on request

DUPUY & FERGUSON MONTREAL

High-grade Fertilizers Are Best Values

The average cost of Nitrogen in 600 samples of "complete" fertilizers was 66% higher than the cost of Nitrogen in

Nitrate of Soda

Are you paying high prices for low-grade goods?

Send Post Card for Attractive, Money-saving Books

WILLIAM S. MYERS, Director
25 Madison Avenue, New York City

Make Money this year from your "Sugar Bush"

Hundreds of farmers to-day make more profit from their "SUGAR BUSH," with less time and labor, than they do from any other crop on the farm.

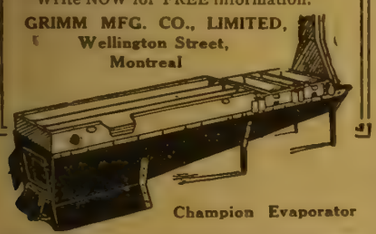
The demand for Maple Syrup and Sugar is greater than the supply, therefore, prices are good and there is always a ready market.

If you have Maple Trees on your farm which you are not tapping, you are losing good money. Maple Trees always produce a fair crop. They need no care of any kind, yet, each year produce more, and are tapped at a season when you cannot do other kind of work.

WRITE TO-DAY, and let us tell you how to make the most out of your Maple Trees with the least time and effort.

Write NOW for FREE information.

GRIMM MFG. CO., LIMITED,
Wellington Street,
Montreal



Champion Evaporator

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N S.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

E. L. Colpitts, Petitcodiac, N.B.

BUTTER PARCHMENT
Maritime Farmer Office

or 3¾ barrels per year for 15 consecutive years. McMahon White planted if there is no frost the temperature on the level may not be high enough to ensure a good germination of pollen and fertilization. Plant at least some of the hardiest varieties of apples so that these may be depended upon in unfavorable seasons to give a medium to good crop.

Plant varieties, which have the same blooming season, alternately, say two rows of one and four of another.

Keep bees to aid in pollination so that the greatest advantage may be obtained from a short favourable period in a generally unfavourable blooming season.

When trees are old enough to begin to crowd, prune severely to admit sunlight and air or take out some trees altogether.

Spray thoroughly every year to reduce to a minimum the loss from injurious insects and fungous diseases and ensure good foliage and a good development of fruit buds.

Begin to cultivate as early in the spring as possible to conserve moisture where there is any danger of too little moisture in a dry time.

Keep up the fertility of the soil. Trees with insufficient available plant food will not set as much fruit as those with a regular and good supply.

THE N. B. APPLE PACKING SCHOOL A GRAND SUCCESS

(Continued from page 321)

have averaged a membership of 100, although the field from which we have to draw is very limited. The Farmers and Dairymen's Association, now in its 42nd year, had some 160 of 170 members in 1916, notwithstanding the fact that they had a very much larger field to draw upon. So I think that the Fruit Growers' Association is doing good work and is worthy of your utmost support. It is your organization and you should try and strengthen it by working for it and securing new members.

A Loss to the Province.

I wish to take this opportunity of expressing my deep personal regret, and the regret of the department, which, I am sure, is also felt by the fruit growers of the province, at the loss of Mr. Gorham's services. He was at all times an exceedingly hard and effective worker in your interests, and I doubt very much if his equal can be secured to fill the position he vacated. I am glad to say, however, that his services are still available to the province and I know that our loss is Mr. Hubbard's gain. I could not close my remarks without referring to Mr. Flewelling and Mr. Holman, who both went overseas and are doing their bit so well. Mr. Flewelling, who went with the 4th University Company, of Montreal, reinforcing the Princess Patricia's Light Infantry, was quite seriously wounded on the Somme front on September 15, 1916, being shot through the left breast very close to the heart. He was in the hospital and convalescent homes for some months, but it now sufficiently recovered to be on military duty in a depot in England. Mr. Holman, who assisted us in the work in 1914, went overseas with the 6th Canadian Mounted Rifles, and has been at the front with a signalling corps for the last eighteen months. I trust that both of these gentlemen will return safe and sound in the near future to renew their connection with the work.

It is a pleasure to express my appreciation of the work that you have done and are doing for fruit growing in New Brunswick. In attempting to carry out the work of my office I know that I have made mistakes, perhaps many of them, but you have always been very considerate, and I feel personally indebted to you for the very generous measure of sympathy and co-operation which you have given me.

Faith in the Future

If my remarks this evening have not conveyed to you the impression of my optimism concerning the future of the fruit industry of New Brunswick they have indeed failed. While there have been times when my faith in the future of the industry wavered, those times are absolutely things of the past, and I never felt more optimistic concerning the outlook than I do now. The longer I live in this province of New Brunswick the more I like it and its people, and the more I believe in it and its possibilities.

Finally, let the orchard owners here

(Continued on page 340)

Seeds Worth Planting

Any of the following sent, postpaid, at prices quoted	Pkt.	Oz.	¼ Lb.	Lb.
Beans, Davis Golden Waxor Butter	..	..	.15	.45
Beet, Early Dark Round Turnip, fine	.05	.20	.50	..
Cabbage, Copenhagen Market, early	.10	.75	..	..
Cabbage, Chester King, best keeper	.05	.30	1.00	..
Carrot, Chantenay, sweet and tender	.05	.25	.65	..
Cauliflower, S.B.'s Earliest of All	.15	3.00	..	..
Celery, Paris Golden, best of all	.10	.80	2.50	..
Corn, Golden Bantam, earliest, sweet	..	..	.10	.40
Cucumber, S.B.'s Perfection, prolific	.05	.20	.50	..
Lettuce, Toronto Gem, fine, heading	.05	.20	.60	..
Onion, S.B.'s Yellow Globe, finest	.05	.25	.65	2.10
Onion, S.B.'s Prize-taker, Red Globe	.05	.25	.65	2.10
Parsnip, Elcomb Giant Hollow Crown	.05	.15	.35	..
Peas, Stratagem, large pods, vines 2 ft.	..	..	.10	.35
Radish, Sc't Turnip, White-Tip, earliest	.05	.15	.40	1.00
Tomato, Jewel, very early	.05	.35	1.00	..
Tomato, Success, large and smooth	.05	.35	1.00	..
Nasturtium, Dwarf, mixed colors	.05	.20	.60	..
Nasturtium, Tall, mixed colors	.05	.15	.40	..
Sweet Peas, S.B.'s Giant, mixed	.10	.35	1.00	..

Order now, either direct or through local merchant.

Handsome Catalogue Free to intending buyers.

STEELE, BRIGGS SEED Co LIMITED

"CANADA'S GREATEST SEED HOUSE"
HAMILTON TORONTO WINNIPEG

A HANDY KNAPSACK SPRAMOTOR

For Spraying Small Fruits, Shrubs and Potatoes

Easily operated by a man or boy,—thoroughly efficient, powerful and a very serviceable and satisfactory little machine for all small work. Sprays paint and whitewash in your stable, disinfectants on your cattle—a necessity on every place large or small.

We make Spramotors in many styles and sizes. Prices range from $6 up to $400.

MADE IN CANADA—NO DUTY TO PAY

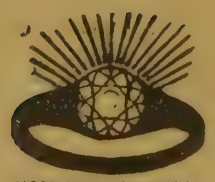
Write to-day for our Free book on "Crop Diseases." It contains much that will interest you.

THE LONDON SPRAMOTOR,
3078 Kings St., East. LONDON, CANADA

STRAWBERRY PLANTS !

Strawberry Growing is NOT overdone in the Maritime Provinces. Every town is a good market, every grocery store sells Strawberries, everybody eats them. Berries are easy to grow and easy to sell, and the cash for the crop comes at a time when cash is a very scarce article on the farm. We grow as good plants as can be grown anywhere, we have the best varieties yet known to Strawberry growers, and our prices are no higher than last year at a time when all prices are up. Write for our Catalogue and Price List at once. Big or small make your plans early to start a patch of berries this season.

CYRUS & MANNING ELLS, - Port Williams, N. S.



GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1–$2–$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day.
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

DAIRYING.

RETENTION OF AFTERBIRTH PREVENTED BY KEEPING COWS IN GOOD CONDITION

Expulsion of the afterbirth is a natural, normal function and the certain evidence of natural condition and good health. That, too, is true of chewing of the cud. If a cow stops chewing the cud she is sick. She never "loses her cud," nor need she be supplied with an artificial cud. She will resume rumination when she recovers. In the same way a cow is sick, or unhealthy when she retains her afterbirth; but it cannot be said, in this instance, that expulsion of the afterbirth will take place promptly when she recovers; for quick recovery does not happen in such cases. Retention of the afterbirth may indicate disease or unhealthiness of the entire system, or be due to local conditions of a diseased or abnormal character. In a majority of instances, however we must conclude that the entire system is more or less out of condition when the afterbirth is retained and that may be true even when the cow is affected with contagious abortion which is notoriously the most common cause of retention.

More and more we are coming to believe that lack of constitutional strength, or natural condition, is the true reason for the hundred and one ailments of our animals. Where natural condition has been lost, resistant power against disease (germs) has gone with it or lessened. When such systemic weakness is great, the tendency to disease will be correspondingly strong and the inability to throw off disease apparent. We pay the penalty in weak constitution, lack of resistant power and susceptibility to all sorts of ailments when we pamper animals for abnormal and unnatural production and "records." The ill effects of pampering may be great or less serious in proportion to the degree of pampering, or to the skill of the manager of the animals in providing every possible advantage of environment to offset the detrimental effects of excessive feeding.

Pamper an animal in a stable where there is "no ventilation", and we may certainly expect her to go wrong in some way or another. Retention of the afterbirth would be one possible and even probable evil effect. Deprive her of daily exercise in the open air, or give her too little drinking water, or water that is contaminated, and similar ill effects may be expected. Then, too, there is the opposite of pampering. The cows that were confined to a stable without ventilation and then fed timothy hay were abused, not pampered, and abuse leads to unnatural and abnormal constitutional conditions that invite disease, or the evidences of disease. such as retention of the afterbirth, or abortion, or suppression of milk flow, to tendency to other diseases, tuberculosis for example.

Retention of the afterbirth does not affect the range cow that is adequately fed and such an animal is so robust that she may even eat her afterbirth with apparent impunity. Half-starve the range cow, however, and all the fresh air and exercise of the range existence might not prevent retention of the afterbirth and that or some other ailment would be likely to affect the animal. The pampered cow cannot eat her afterbirth with impunity. She lacks resistant power against the ill-effects of the decomposing membrances or has not the powerful muscularity of the range cow to get rid of the foreign mass in her paunch. Eating of the afterbirth should be prevented in all circumstances and instances. The constitutional strength which might make eating of the afterbirth a nonserious matter should, by every possible means, be courted and retained. Then retention will not occur, provided contagious abortion or other disease is absent.

With the object of preventing retention of the afterbirth every animal in a herd of cattle should be tested with tuberculin and kept free from tuberculosis, for that disease often causes retention. So, too, contagious abortion should, so far as possible, be kept out of the herd. To that end every cow and the bull should be tested by the complement flaxation method of blood examination. By that means the disease may be kept out of the herd with a fair degree of success. Disinfection of the rear parts and genitals of every cow also should be attended to regularly and the herd bull also should be disinfected to prevent communicable disease. In short, sanitation is imperative in the management of cattle, if disease is to be prevented. Additional precautions in management will include a system of stable ventilation which at all times will provide sufficient fresh air without causing injurious drafts and will remove foul air perfectly. A system of feeding which will adequately provide the needs of the body for maintenance and the demands of the unborn fetus and for the production of milk, without inducing an overfat, constipated condition. A system of management which will insure for every animal sufficient outdoor exercise daily to cause activity of the excretory organs and maintenance of muscularity. Without exercise sufficient for these purposes the system becomes vitiated by absorbed and retained effete matters which should have been promptly voided.

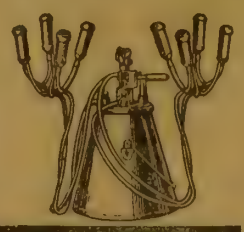
It may in conclusion be advised that the pregnant cow should be dried off for at least six weeks before calving; should have exercise every day; occupy a clean, light, well-ventilated stable and have light, laxative rations which will keep her bowels active. All rich feed should be greatly reduced in quantity and the daily ration of silage should be cut down a third and then a half, at the least, while bran and flaxseed meal may be given in wet condition, to relax the bowels. Retention of the afterbirth will then be unlikely to occur. If actual disease is absent and prompt expulsion may be stimulated by injecting into the vagina every six hours after calving a gallon or two of lukewarm water containing not over one teaspoonful of coal tar disinfectant to the quart, or a like amount of salt may be used if a disinfectant is not available.—A. S. A. in O. V. J.

IT PAYS TO ADVERTISE AND KEEP RECORDS

We have a letter from Arthur E. Dickie of the firm of S. Dickie and Son, Central Onslow, N. S., who are persistent and consistent advertisers in the columns of The Maritime Farmer. Coupled with the latter trait we may add that the Messrs. Dickie are believers in record keeping and by a process of elimination and careful attention to the choice of high quality sires to head their herd from time to time, they have made a name for themselves and their herd in the annals of stock breeding in Canada. These are the reasons, coupled with judicious feeding that have placed their individuals at the head of the prize winning lists in the Winter Fair Dairy Tests.

Messrs. Dickie do not experience any difficulty in disposing of their

"I could not have done without it this Summer, as help is so scarce"



Here is the experience of one of the scores of dairy farmers for whom the

EMPIRE
Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

R. R. No. 3, INGERSOLL, ONT.

Gentlemen:—

I have used one of your "Empire Milkers" since early last April, on from 30 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier.

I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean.

I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.

WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. L

The Empire Cream Separator Co. of Canada, Limited,
58 MONTREAL. TORONTO. WINNIPEG.

Many Women Suffer From Pains in the Back.

When the back begins to ache it is a sure sign that there is something radically wrong with the kidneys.

What you want is a kidney medicine. Doan's Kidney Pills are not a cure-all, but a medicine for the kidneys only.

Mrs. L. Melanson, Plympton, N.S., writes: "I am sending you this testimonial, telling you what a wonderful cure Doan's Kidney Pills made for me. For years I had suffered so with my kidneys I could hardly do my housework. I used several kinds of pills, but none of them seemed to be doing me any good. At last I was advised to try a box of Doan's Kidney Pills. When I had taken the first box I found relief. I have used five boxes and to-day I feel like a new woman. I cannot recommend them too highly."

Doan's Kidney Pills bear the trade mark of a Maple Leaf and are put up in an oblong grey box. See that you get "Doan's" when you ask for them.

Price 50c. a box, 3 for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

When ordering direct specify "Doan's."

Marmalade

I made it with my same old recipe but I used

Lantic Sugar

On account of its Fine granulation it dissolves instantly making a clear jelly.

108

2 & 5 lb. cartons, 10, 20 & 100 lb. sacks

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue.

98

T. E. BISSELL CO., LTD., Elora, Ont.

Prize Butter Makers Use Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED 181

TOO MUCH MUSTARD ?

It costs but 80c an acre to kill wild mustard when you use a Spramotor. If you spray for four years you will be able to pull all that comes up the fifth year. The mustard plants will be killed without in any way injuring the grain.

Spramotor

It isn't a SPRAMOTOR unless we made it

is made in many styles and sizes from the largest horse and wagon outfit to the small portable Knapsack Sprayer, at prices from $6 up to $460. Over 20 valuable patented features obtainable in no other machine are embodied in the Spramotor.

Made in Canada—No Duty to Pay.

Write for booklet of crop diseases—free.

THE LONDON SPRAMOTOR,
3077 King St., East
London - - Canada.

1867 --OUR-- 1917

JUBILEE YEAR

We have begun our 50th year with every prospect of it being the best yet. Students can enter at any time.

SEND FOR RATE CARD.

The St. John Business College

S. KERR
Principal

We have been using MINARD'S LINIMENT in our home for a number of years and use no other Liniment but MINARD'S, and we can recommend it highly for sprains, bruises, pains or tightness of the chest, soreness of the throat, headache or anything of that sort. We will not be without it one single day, for we get a new bottle before the other is all used. I can recommend it highly to anyone.

JOHN WALKFIELD.
LaHave Islands, Lunenburg Co., N. S.

surplus stock—they can show authentic records—just the kind of work that Prof. Mitchell wishes to encourage in New Brunswick by his sliding scale of bonuses. We are pleased to note that our Maritime Province breeders are one by one falling into line in the work of cow testing and just as soon as they will have some good records to show, as some of them already have, just so soon will the cry of difficult sales cease.

The letter in question reads as follows and speaks for itself:—

"Enclosed you will find change of copy for our advertisement in The Maritime Farmer. Our sales have been very good during the Fall and Winter, totalling fifteen head. We find the buyers getting more exacting all the time in regard to breeding, production records and individuality.

"The young bulls we are offering in the enclosed advertisement are sired by Royalton Canary Majir whose dam, Royalton DeKol Fern, has an official record of 34.60 pounds butter in seven days, 116 pounds milk in one day. This grand old cow's three-quarters sister, Royalton DeKol Violet recently completed a years test with a record of 29,963 pounds milk and 1300.4 pounds butter to her credit at 10 years of age, which entitles her to the Worlds record for that age.

"We bred a number of cows to Colony Canary Rag Apple whose dam, Wadmantje Canary has official records of 31.38 pounds butter in seven days, 354.95 pounds butter in 90 days as a junior four year old and 33.06 pounds butter in seven days as a five year old. This cow is considered to be one of the finest cows in Canada. The calves sired by Colony Canary Rag Apple are the finest we have ever seen barring none. We have also a number of very fine calves by a young bull of our own, that we think is some bull. He is Prince Colanthus Abbekirk B., whose dam is Madam Pauline Canary that has an official record of 30.00 pounds butter in seven days and won second place in the Guelph Dairy Test in 1916. Her dam is Madam Posch Pauline, one of the greatest cows living. Her records at five years old are 34.09 pounds butter and 802.9 pounds milk in seven days, 118.8 pounds milk in one day, 17,476.7 pounds milk and 709.90 pounds butter in six months. As a seven-year-old she made 34.38 pounds butter in seven days and 124.5 pounds milk in one day, 16,989.6 pounds milk and 693.69 pounds butter in six months. The sire of Prince Colanthus Abbekirk B. is out of Pauline Colantha Lemon with a record of 32 pounds butter in seven days and 104 pounds milk in one day and nearly 20,000 pounds milk in one year. Pauline Colantha Lemon's dam, Pauline Colantha Posch has a record of 29.5 pounds butter in seven days. Are we not justified in looking for something good from Prince Colanthus Abbedirk B.? His calves are well marked and very promising.

"On account of it being impossible for us to get the necessary mill feed that we wanted, we did not do any official testing last fall, but we have a couple of fine cows that we intend to try out before long.

"Milk is at a high price but mill feeds are higher."

It is not economy to feed all cows the same amount of grain. They should be fed in accordance with their production. A heavy grain ration given a light milking cow fattens her but does not increase her milk beyond her ordinary limit.

Dairy products will hardly ever get so high that every man keeping cows will make money or so low that every one following dairying will lose money. It is not within the power or province of any one man to make or regulate the markets, but it is in the reach of all to try to adapt what they make to the wants of the market, to be improving his products, simplifying his processes and becoming a better master of his business.

A bull must have plenty of exercise. He does not need to be housed in a warm barn, but is kept in the best condition when given a dry but open shed, with a paddock attached so that he can go in or out at will.

ALPHA

The Best Gas Engine to Buy

WHEN selecting a gas engine, the most important thing is to get a good engine. There is no economy in buying an engine that is going to require frequent repairs and that is likely to balk just at the time you need most to use it.

The wise man considers service, reliability and durability first, and price second. Selected on this basis, the ALPHA is the logical engine to choose, because it is the simplest and most durable in construction and the most reliable in operation. It runs smoothly and powerfully on a minimum consumption of either gasoline or kerosene, and operates on a simple magneto without the use of any batteries.

It is so simple that a woman or a boy can start and operate it, and the sensitive governor, which acts the instant there is the slightest variation in the load, insures steady running without any waste of fuel.

Before you put any money into a gas engine, investigate the ALPHA—and remember that the man who buys the best is never sorry.

Ask for catalogue, prices and complete information. Made in various sizes, 2 to 25 H. P. Each fully equipped, ready to run, either in stationary or portable style, and with hopper or tank cooled if so ordered.

THE DE LAVAL CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogues of any of our lines mailed upon request

MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 Branches and Local Agencies the World Over

Supplying the Demand for Royal Purple Calf Meal

This baby food for young animals is partially pre-digested, and can be fed to the youngest animals with perfect safety. It WILL NOT cause stomach or bowel trouble, which are serious ailments in young animals. Royal Purple is a sure preventive for scouring.

Calves Gain Rapidly Without Milk

When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark:

Mr. Geo. W. Collins, Plainfield, Ont., writes:

"Gentlemen.—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: Uxbridge, Aug. 5th

This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist, Mr. T. C. Nicholls, of Uxbridge, and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried. I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves."—Stanley W. Croxall.

Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle, and is an excellent authority on Calf Foods.

Royal Purple Calf Meal is equally good for young colts, lambs and young pigs. Put up in 25-lb., 50-lb. and 100-lb. bags. Secure it from our dealer in your town.

W. A. Jenkins Mfg. Co., Ltd., London, Can.

35

FREE BOOK

Send for our 80-page book which describes the common diseases of stock and poultry; also methods of feeding and our many products. Get a copy to-day.

What a Price to Pay for the Lack of Safe Roofing
ANOTHER BARN BURNED
SIXTH LOSS IN VICINITY FROM LIGHTNING OR UNKNOWN CAUSE, IN FEW WEEKS
(Special Despatch to The Globe.)
Simcoe, Aug. 28—The barns of Keith Maybee, two miles south of this town, were destroyed by fire early this morning, the property of Fred Beaupre, a neighbor. Both the alarm, but it was too late to arrest the flames.
THE CROP, IMPLEMENTS AND BUILDING WERE ALL DESTROYED
There was some insurance. This is the sixth barn near town that has been burned by lightning or by unknown causes. Maybee is a daughter of Mrs. Owden, one mile out of town, whose barns were burned a fortnight or so ago while threshing was in progress.
PEDLAR'S "GEORGE" SHINGLES

EVER think how often you too have barely escaped a similar disaster—or how soon destructive flames may at any moment envelop all you possess and hold dear?

Real protection insists that you roof your barns and home with inflammable material—Pedlar's "GEORGE" Shingles. Thus you rob lightning and fire of their power to destroy, and, what's more, obtain the base rate of insurance.

Pedlar Shingles are also proof against wind, rain, rust and rot. Easy to put on. Keep your barn sound for generations. Write for the "Right Roof" Booklet M F

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(Established 1861)
26 Nazareth St., MONTREAL
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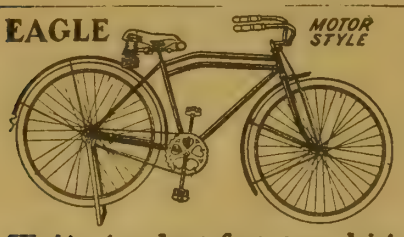
EAGLE MOTOR STYLE



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showing our full line of Bicycles for Men and Women, Boys and Girls—Tires, Coaster Brakes, Wheels, Inner Tubes, Lamps, Bells, Cyclometers, Saddles, Equipment and Parts for Bicycles. You can buy your supplies from us **at wholesale prices.**

T. W. BOYD & SON,
27 Notre Dame Street West, Montreal.

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, post-paid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:
Mrs. M. Summers, Box 309 Windsor, Ont.

LIVE STOCK.

HOWICK-HUNTINGDON AYRSHIRE CLUB

Red Cross Drawing.

The Grand Prize drawing for the registered Ayrshire bull calf "BURNSIDE RED CROSS" donated by R. R. Ness, Howick, Que., through the Howick-Huntingdon Ayrshire Club to the Red Cross Society, took place at the evening session of the Huntingdon Dairymen's Convention, held at Ormstown, Que., on the 20th instant. The winning number proved to be 291, held by H. H. Scott, Superintendent, Boy's Farm, Shawbridge, Que. As this is a charitable institution the result is especially fortunate.

This calf was dropped in November 1916 and is royally bred, being sired by the noted "Hobsland Masterpiece" —31717—and from "Auchenbrain Craig 16"—39387—a daughter of "Lessnessock Good Gift"—(7368. On the maternal side she traces in the second generation to St. Simon of Auchenbrain (4400), the sire of "Auchenbrain Brown Kate 4th", so there can be no question but that he will prove a great acquisition to the Ayrshire herd maintained at the Boy's Home at Shawbridge.

The tickets were well spread, every Province in Canada being represented, as well as ten of the United States. The response of the leading American Ayrshire men was particularly gratifying.

Nine hundred tickets were sold and the Club turns over $900.00 to the Red Cross Society, to be divided equally among the branches at Howick, Ormstown and Huntingdon.

Gilbert McMillan,
Secretary-Treasurer.
Huntingdon, Que., February 23rd, 1917.

FEEDING THE BUZZARDS

In the back pasture of a farm was the body of an old ram. The owner knew that the sheep was dead, but the haying was well started and the busy days seemed to offer no slack hour in which to bury the carcass. There was also other stock in the same field. Less than a mile away another farmer's hogs were quickly shuffling off their porcine coils, as cholera scourged the herd. The owner of these hogs was busy too, so he piled a few of the carcasses in the lane, safely away from his other hogs, intending to bury them within a day or two. Within a short time the buzzard began to sail about over head, swooping down to feast on the bodies of the dead hogs. A few days later the farmer with the dead ram in his back pasture noticed that some of his hogs showed unmistakable signs of cholera. Finding time then to go to the field he beheld the buzzards gorging themselves on the remains of his former flock-leader. A comparison of notes by these two busy farmers revealed the fact that each had served a feast for the carrion birds, which had undoubtedly carried cholera from one farm to another.

The only excuse for this unappetizing story is that it is true. We may divide ourselves into schools of anti-vaccine and pro-vaccine, but what excuse is there to take a stand against common-sense sanitary precautions? Not infrequently the statement is made: "The hog is dead, there is no more danger." On the contrary, this case is but a sample of many in which disease is carried through the medium of the flesh of dead animals. Why not dispose of the bodies of all dead animals on the farm? Perhaps they have died of a contagious disease that may be carried by bird or beast to the neighbor's barnyard; or perhaps the carcasses will attract birds bearing

STEELE, BRIGGS'
PROVED THE BEST BY EVERY TEST
"CANADA'S GREATEST SEED HOUSE"
FOR SALE EVERYWHERE IN CANADA
SEEDS

Kept Fit Through Two Wars

Ontario Sapper Praises Dr. Cassell's Tablets.

That a soldier should use and praise Dr. Cassell's Tablets is clear proof of the wonderful sustaining power of this great strength-giving medicine. And thousands of service men on land and sea are trusting to Dr. Cassell's Tablets to sustain them through all the hardships of relentless war.

Sapper Hartley.

SAPPER A. HARTLEY, OF THE A. COMPANY, CANADIAN ENGINEERS, whose home address is **906, TRAFALGAR-STREET, LONDON, ONTARIO,** is one of many who have written in praise of Dr. Cassell's Tablets. He says:—"As a constant user of Dr. Cassell's Tablets I would like to add my testimony to their value. I used them when I was in the South African War, and, finding the benefit of them there, have taken them since whenever I felt run-down. I always recommend them, for I know they do all that is claimed for them. In my opinion they are the best tonic anyone can take for loss of appetite, poorness of the blood, or general weakness of the system. We have had a lot of hard training here, and some time ago I began to feel the strain, but I got some Dr. Cassell's Tablets, and the boys are surprised at what a difference they made in me. I mean to have some with me always on active service."

Dr. Cassell's Tablets put new life and vigour into weak, overstrained people. They nourish the nerves, enrich the blood, strengthen the general system, and create that snap and fitness which make life a joy. Take a course of them, and health and vital energy will soon be yours.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Advertise in the Maritime Farmer for Results

Big Profit in Potatoes

1917 potatoes will undoubtedly command high prices. Buy a

Eureka Potato Planter

now. The Eureka line is the largest made. Three sizes, one or two rows, with or without fertilizer attachment. Used successfully for 18 years. Operated by one man, meaning less trouble and expense. Opens furrow, drops seed any distance or depth, puts on fertilizer (if desired), covers up and marks next row, all automatically. Driver sees seed drop. Does not injure seed.

Ask for catalog of Potato Cutters, Sprayers and Potato Diggers—the Eureka Line of Potato Machinery.

Write today. Sold by

FROST & WOOD CO., Ltd., St. John, N. B.

Eureka Mower Co.
Box 745
Utica, N. Y.

diseases from the other herds and flocks. Burning is effective, but not always possible. Burying deep and covering well is also an effective disposition of the dead bodies.—Breeders' Gazette.

KEEPING A BARN BOOK

The essential methods of the large breeding establishment are suitable and essential for the management of the small herd. So small a thing as a memorandum book and a pencil tied together and kept hanging in a secure place in the bull's stall is not to be overlooked. Trusting to memory with even a few cows is to be avoided; trusting to setting down dates of service at some convenient time is not safe; entering dates in a book devoted to general memoranda is not convenient. Far easier and much better is a barn book used promptly and habitually. A page should be given to each cow, and under her name the date of service and the date of calf's birth, with its name. It is an excellent plan to name the calf the day it is born. Of course the herd register kept in the desk will have the birth date and name of each calf properly entered therein, as well as in the barn book. Because the beginner does not always and fully recognize the importance of accurate records we find that breed history abounds in instances where animals have been lost to official record through incomplete entries in personal record books. Many herds have lost their identity by the death of an owner who kept no plain and unmistakable memoranda, and in consequence his estate suffered a substantial loss.

The habit of keeping a barn book and the habit of transferring to the desk herd book a record of additions to the herd under the dam's pedigree would furnish the evidence necessary to identify the animals in the herd.

THE HERD SIRE AND HIS CARE

There are many things to be considered in preparedness when one goes in for purebred cattle. Not only must he find the capital required for the investment, not only must he acquire a knowledge of breeds and their aptitudes in order to make a wise choice, but even within the breed itself he should have a knowledge of the pedigrees that are approved. In addition, however, to these essential things, there is the preparation of the farm and farm buildings for the maintenance and use of a breeding herd. At first there many not be a full appreciation of the necessity for permanent pasture, but it is possible to find fairly satisfactory make-shifts in the quickly-grown forage that may be included in the farm crop rotation.

The most serious point and where the beginner is most likely to hesitate is in the adequate preparation for the care of the breeding bull, the head of the prospective herd. One will decide that he will take his cows away from home for service, and then later will discover that this plan is so difficult in operation that it is likely to entail a loss both in time and in herd increase. Another will seek to save time and labor by permitting the sire to run with the herd in the pasture, and share the ordinary stalls in the barn. This plan is found lacking in orderly business character because it prevents accurate knowledge of when a calf may be expected, if at all; and, moreover, this course is likely materially to affect the usefulness of the sire, and may spoil his temper to a degree that makes him a menace to the neighborhood.

MADE IN CANADA

Used for making hard and soft soap, for softening water, for cleaning, disinfecting and for over 500 other purposes.

REFUSE SUBSTITUTES.

E.W.GILLETT COMPANY LIMITED
TORONTO, ONT.
WINNIPEG MONTREAL

IMPORTANT NOTICE

At the annual meeting held in Toronto in February, 1916, the Canadian Ayrshire Breeders' Association's Constitution was amended. We draw particular attention to the following:

"Transfers must be supplies for all changes of ownerships of animals sold prior to registration and the usual fee will be charged for transfers to third and successive owners."

This means that if you have sold an animal before recording it, you must send a transfer of the animal along with the application for registration. It is not sufficient to place the owner's name as second owner on the application. Please be guided accordingly.

Yours truly,
Canadian National Live Stock Records
JNO. W. BRANT,
Accountant.

LIVE STOCK IN THE ROTATION

Live stock furnishes a means of rotation; the physical condition of the soil is restored by means of the turf produced. A three-year rotation of clover, oats and corn is merely a whirling wheel which by centrifugal force throws a little more richness out of the land than a one or two-crop system. Such rotations encourage rather than arrest depletion. Most soils are the result of vegetable growth and decay, or of residues left by the great game herds. It takes time for the roots and their acids to disintegrate the more solid particles of soil. The older the organic matter the less soluble it has become. It may be rich, but it is inert. High-pressure farming and short rotation will bring big crops. They tear down the soil and turn it into a marketable product. Building up the soil requires that we reverse the process and allow the turf to act on the non-organic substances of the soil. This must be done at a profit or the land will go to waste. It has been done for hundreds of years by the aid of live stock in the rotation. L. Ogilvy.

See the Difference

BETWEEN THE

NEW DE LAVAL

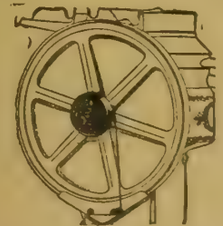
AND OTHER

CREAM SEPARATORS

YOU can *see the difference* between a NEW DE LAVAL and any other cream separator right away.

And five minutes spent in comparing the bowl construction, the size, material and finish of all the working parts, the manner of oiling, the tinware and the frames, will surely convince you of the superiority of De Laval construction and workmanship.

Then if you go a step farther and turn the cranks of the two machines side by side for fifteen minutes, running milk or water through the bowl, you will see still more difference.



Every New De Laval is now equipped with a Bell Speed-Indicator, the "Warning Signal" which insures proper speed and uniform cream.

Speed Indicators can be furnished for use on old style De Laval machines at a cost of $3.00 each.

And if you will run the two machines side by side in practical use, as any De Laval agent will be glad to have you do—the De Laval one day and the other machine the next—for a couple of weeks, you will see still greater difference in the work of the two machines.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you *prove the difference* for yourself.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any line mailed upon request.

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50,000 Branches and Local Agencies the World Over

America's Pioneer Dog Remedies

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
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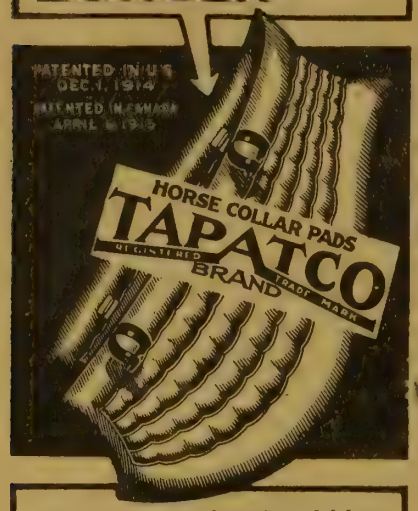
HOOKS MADE TO STAY ON LONGER



Our new patented staple and felt reinforcing device gives a *larger, firmer hold* than is possible by any other form of attachment--hence hooks do not pull off easily. This adds to life of pad. This form of attachment is

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Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it, ask him to write us.

The American Pad & Textile Co., Chatham, Ont.

Main Office and Plant, Greenfield, Ohio, U. S. A.

THE HORSE

INTELLIGENT FIRE HORSE

Of all the fire horses in Boston probably none are admired more than the coal-black hitch of Engine 26, which is "at home" in Mason Street, close to the Boston Herald building. It has been determined by actual comparison that the fire horses are better adaptd for fire runs in the central part of the city than are the motor pieces of apparatus. This is because of the narrowness of downtown streets, the constant crowds at crossings, and most of all because the intelligence of the fire horses plays no small part in solving the difficulties that beset the engine guiders in difficult situations.

There is one name that is held almost in reverence at Engine 26's House, and that is the name "Baby." Baby was the off-horse on Engine 26's hitch less than a year ago. He was put into the hitch at a very early age, because of his strength, speed, endurance, and fine horse-sense. At its best horse-sense is said by engine drivers to be a quality that approaches human intelligence closer than the sense of any other animal.

On a day last winter when the streets were slippery with slush, Engine 26 was called for a fire in Columbus Avenue just above Park Square. It was neecssary to pass through Park Square to reach the alarm box from which the fire signal had been sounded.

There are two entrances to Park Square from Boylston Street with a small portion of land between, which is called the "Island." This island was crowded with women shoppers and children, when the first of the fire apparatus swung into Boylston Street.

Patrolman Hoppe of the Lagrange Street police station cleared both entrances to Park Square. This left room for Engine 10, an automobile, to enter on the right, and Engine 26, with its coal-black hitch, on the left.

As a result of the speedy clearing of the square the women and children were left on the island as both pieces of fire apparatus swung into the square from Boylston Street. Engine 10 went through smoothly, but the wheels of Engine 26 skidded a little and started to swing in towards the island. This changed the momentum of the whole piece of apparatus, and the next instant the engine swung sidewise and came crashing down towards the island where the women and children were huddled, little realizing their peril.

The momentum of the engine swung the horses with it. But as the driver realized just what was about to happen he gave a quick jerk on the line that ran to the off-horse. Baby caught the signal. He knew only obedience to orders, which is the discipline of the department. A tug at the line meant "hold," and Baby held.

He stood firm momentarily, braced, and in that moment the people on the island had a chance to jump out of danger's way. The next instant, almost, Baby gave way under the strain, and went down with a broken leg as the engine crashed into the island. The other horses who simply followed the momentum of the engine were not injured,—Baby had stood firm for the one crucial moment. He had obeyed orders as only a fine intelligent horse could do.

Baby, of course, had to be humanely destroyed as are all horses that break their legs, but there are at least a dozen persons in Boston today who owe their lives and health to his intelligence.—By E. P. Kelly in Our Dumb Animals.

COMPANIONSHIP WITH HORSES

Already one sees matched pairs of big horses on the roads and in the little towns. Men are getting their horses accustomed to working together as they want them for the summer. Frequently it is some old quiet team, perhaps of different sizes and colors, that is kept sharp-shod and used steadily throughout the winter. It is a matter of convenience, and when the wind chills to the bone a driver thinks more of comfort than of appearances. Now the season of spring work is drawing near and there are more good-looking farmer's outfits to be seen. Some of the horses are young and frisky; some are thin; all are long-haired, but they show signs of recent stabling, grooming and grain-feeding.

One of the great satisfactions of farm life is the inherent pride in horses which prompts men to make their teams appear to good advantage. There is a fundamental affection for the horse which stirs the driver to devotion and attention to the animal's welfare. Undoubtedly there is a reciprocal sentiment. Horses appreciate it. The mutual attraction between horses and driver is one of the forces which stirs farmers to put forth their best efforts in field and paddock.

When we come to think of it in this way, it is evident that the kind of horse a man works is likely to affect his efficiency. In summer a farmer spends more of his waking hours in the company of his teams than in the company of his wife. If the horses are strong, active, well-behaved and good-looking, they radiate a substantial inspiration to do good work and lots of it. It is much easier and pleasanter to do a big day's work with a team that takes the lead and steps lively, than it is to hammer a day's work out of a team of sluggish plugs. One buoys up the spirits; the other drags down ambition to a dead level.

The good wife should be thankful if her husband drives good horses. During the long hours he must spend in the field they preserve in him the happy frame of mind to appreciate kindness, affection and devotion. A man cannot be in his best frame of mind after a day of constant vexation. It is the time-honored habit of men to admire women and horses. It is also the man's privilege to choose his wife and select his horses. If he exercises good judgment and follows it up with good care, he enjoys and preserves companionships that are both ennobling and of practical intrinsic value.

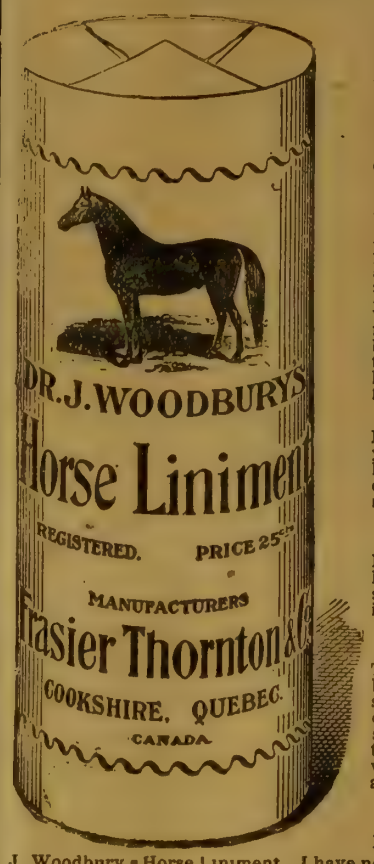
GREASE HEEL

I have a very bad case of "grease heel" in my horse. I have been doctoring him for more than a month and can see but little improvement. I have used poultices, washed the leg with castile soap and water and fed saltpetre in feed. The poultices bring the swelling down but the fever remains. J. K.

Grease heel generally follows scratches that are neglected and it is also due to impure blood or general bad condition in a horse. It is sometimes brought on by clipping horse's legs in cold, wet weather. It is hard to effect a complete cure, but you can relieve your animal to a certain extent by giving a physic drench, say 8 to 10 drachms of bitter aloes, one tablespoonful ginger, one tablespoonful

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
Newton Lee, Owner "All Right" 5817.

Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada.

ABSORBINE *STOPS LAMENESS* from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. **Does not blister or remove the hair** and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.00 a bottle delivered.

Horse Book 9 K free.

ABSORBINE, JR., antiseptic liniment for mankind. Reduces Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, heals Old Sores. Allays Pain. Will tell you more if you write. $1 and $2 a bottle at dealers or delivered. Book "Evidence" free. Manufactured only by W. F. YOUNG, P.D.F. 124 Lymans Bldg., Montreal, Can.

Absorbine and Absorbine, Jr., are made in Canada.

BRONCHITIS AND COUGHS THAT HURT

Cured by

VENO'S LIGHTNING COUGH CURE

Have you ever had that kind of cough that strains your whole body and hurts so much that you are afraid to cough at all? It is dangerous, because the excessive strain may cause some internal displacement. But take Veno's Lightning Cough Cure, and the danger is soon past. Veno's relieves at once. The cough becomes quite loose and is soon cured by this incomparable remedy. Every cough yields to Veno's. Try it. Prices 30 cents and 60 cents, from druggists and stores throughout Canada.

"TITE WAD" "STICKS LIKE A BULL-DOG"

THE ORIGINAL RUBBER PUTTY

Vulcanizes Without Heat.
Heat Does Not Affect It.

Don,t throw away old tires. rubber boots, rain-coats or hot water bottles,—buy a tin of Tite Wad—postpaid to any part of Canada. Put up in 3 sizes; 50c, $1.00 and $1.50. Guaranteed to do what we say or money refunded. Address mail orders: EDWIN SCHOFIELD, 24-26 Dalhousie St., Toronto, Ont. Montreal Branch: 26 Victoria Sq. Stock carried by SUMMER COMPANY, Moncton, N. B.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL
For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.
A Perfectly Safe and Reliable Remedy for Sore Throat Chest Cold Backache Neuralgia Sprains Strains Lumbago Diphtheria Sore Lungs Rheumatism and all Stiff Joints
We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.
REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

common soda. Bathe the legs with warm water and castile soap twice a day and after rubbing dry, wash with white lotion to which is added a few drops of carbolic acid. When the horse can be left in stable and is not required at work, he will be benefited by poulticing with hot bran and linseed meal, but care should be taken that neither cold nor wet should be allowed to affect them for sometime after poulticing. If the disease should show signs of little red growths around the heel, these will have to be burned off with burned alum or caustic potash, which is bought in the form of sticks. You must persist with the treatment, as it sometimes takes quite a long time to affect a cure. Keep the horse's bowels in laxative condition and feed bran mashes liberally and add one tablespoonful of epsom salts to feed daily.

MINARD'S
"KING OF PAIN"
LINIMENT
I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.
I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.
I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters
Manufactured by the
Minard's Liniment
Yarmouth, N.S.

WOUND IN FROG OF HORSE'S FOOT

I have a horse that drove a snag into the centre of the frog in front foot. It has broken out now on top of heel under fetlock. I cannot get it to heal up and the horse is pained and goes lame. What had I better do? D. N. B.

Do not try to heal up the wound until it has been properly cleaned out. If taken as soon as it breaks out on the top, poultice for 24 hours with hot bran and linseed meal mixed to soften all the parts. Then give the diseased part vent at the bottom, to allow the matter, if any, to run out there if it will, but if none is found at the bottom do not cut the hoof to make it bleed. Open the wound freely at the top, do this gently with a piece of smooth whale bone or similar article. Cut out a V shape piece in the hoof, carefully below where the running appears at the top to allow the matter to run out at the lower end of the wound. Then sponge it out with warm water to cleanse it and follow with a lotion made as follows:

2 drachms sulphate of copper in ½ pint of water. Inject well down into the wound twice a day. If the above mixture burns or causes the wound to dry up add a little more water to it. In ten days, if the wound does not appear to be getting better change lotion to following: 3 drachms sulphate of zinc in ½ pint water. Be careful that the opening is down to the bottom of wound and you will have no trouble in curing it. Keep the shoe off till the foot is well enough to work; and then put on a bar shoe so as to protect the weak quarter.

THE RETREAT OF THE SCRUB SIRE

A county agent in Kansas sends out a letter to his constituency, admonishing as follows: "Are you aware of the fact that of the 51 stallions standing in Wilson county only 41 percent are purebred animals? With this condition existing is it possible for you to get the full value of the breeding fee expended? Concerted action on the part of the farm bureau members in insisting that only registered animals be used will crowd the scrubs to the background. Begin this spring."

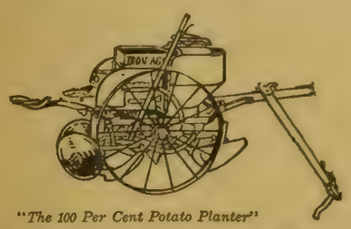
This is representative of the fight against the scrub stallion the country over. All forces tending to agricultural progress are aggressively allied against the scrub sire. That the fight is being waged with telling effect is attested by the annual reports of the stallion enrollment boards. The purebred sire is gradually pushing the scrub to the background. But all in all there is a large lump to be leavened and there still remains plenty of constructive work to engage all willing hands.—Breeders' Gazette.

$1. for a Horse
Save a horse and you won't have to buy one. Don't sell or destroy any horse on account of Spavin, Splint, Ringbone, Curb, Sprains or Lameness. Spend one dollar for a bottle.
KENDALL'S
SPAVIN CURE
It has saved a great many horses—has put them back to work, even after they have been given up. Over 35 years of success have proved its value.
Mellear Crivea, Marengo, Sask., wrote last February—"I have used your Spavin Cure for many years and thus far have never known it to fail."
Get Kendall's Spavin Cure at any druggist's. Price $1. a bottle, 6 bottles for $5. "A Treatise on the Horse", free at druggists or from
Dr. B. J. Kendall Co. Enosburg Falls, Vt., U.S.A.
120

WORMS IN HORSES

Horses that have worms become unthrifty, their hair gets rough and they lose condition, although they may continue to have a good appetite. A worm remedy that is suggested by the University of Missouri is made as follows: Powdered nux vomica, 2 ounces; powdered gentian root, 4 ounces; powdered areca nut, 6 ounces; sodium chloride, 4 ounces; arsenious acid, 2 drams. These should be mixed together and a heaping tablespoonful given for every 250 pounds of weight, every morning and evening for about ten days. The medicine may be mixed with ground feed or sprinkled over oats and corn which has been dampened.

Don't Waste the "Golden Nuggets"!

Make every seed-piece count, yet make sure of a full stand. This boy will help you do 100% potato planting, with no doubles and no misses. He will save you 1 to 2 bushels per acre—some say a barrel. He earns his way many times over. You can't afford to do without him. Use the seed-saving
IRON AGE Potato Planter
It plants as fast as the team can walk, spaces the seed evenly and at uniform depth. Has no pickers—nothing to cut or bruise the seed. Spreads the fertilizer and thoroughly mixes it with the soil so that it can not injure the seed. Can be had in two styles with or without fertilizer attachments and with choice of furrow openers.

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Write today for booklet fully describing this 100% Potato Planter. We also make a full line of potato spraying, cultivating and garden tools.
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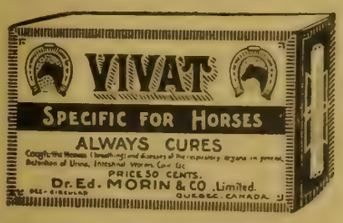

is an energetic remedy in powdered form, prescribed with great success by prominent veterinary surgeons, for the absolute cure of coughs, heaves, etc. It acts as a diuretic in cases of colics and is prescribed for worms.
"VIVAT" strengthens draught-horses as well as racers and gives them endurance.
A 50c box of VIVAT is sufficient for 6 days' treatment.
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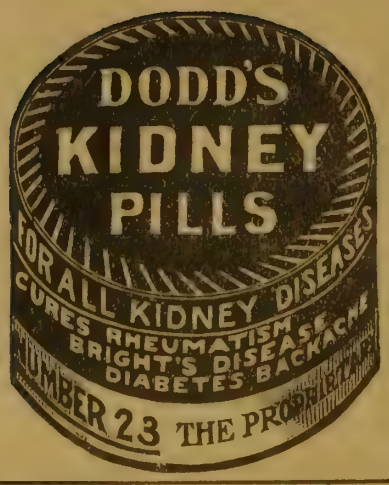

POULTRY.

THE BIRTH OF A CHICKEN

(Reprinted by Request)

An infertile egg, or rather one without a germ, is termed "clear." A fertile egg becomes "addled" or rotten when the germ dies before the chick is formed.

Life is perceptible in about a day after incubation begins. The first appearance of red blood is found on the yolk-bag toward the close of the second day. The heart appears on the third day. The pupil of the eye can be distinguished on the fourth day. The lungs begin to form on the fifth day. The gall-bladder is first seen on the sixth day. The bill is noticeable on the seventh day. The brain, wings, thighs and legs are formed on the eighth day. The bones are shaped on the ninth day. The muscles of the wings are completely formed on the tenth day. The arteries begin to be distinct on the eleventh day.

On the twelfth or thirteenth days, if the membrane enveloping the white of the egg be examined very cautiously by opening the shell, it will present, Blumenback says, without any artificial injection, one of the most splendid spectacles that occurs in the whole organic creation—the most simple, yet the most perfect substitute for the lungs. It exhibits a surface covered with countless blood vessels, venous and arterial, branching through its texture. The veins are of bright scarlet color, carrying oxygenated blood to the chick; while the arteries, on the other hand, are of a deep crimson or livid red, bringing the carbonated blood from the body embryo. The functions of the two are thus the reverse of those they perform after the chick respires.

On the fourteenth day, the feathers appear, well developed. Day after day then the growth goes on, and by the nineteenth day the embryo frequently utters a sound. On the twenty-first day, the shell breaks and the chick is born.

There used to be a belief that the chick was freed by the mother breaking the shell. The use of artificial methods for hatching has clearly proved that belief to be wrong.

Present-day poultry science gives these facts in the development of the chick:

Twelve hours after incubation has begun, the lineaments of the head and body are discovered. Close observation has found the heart to beat by the close of the day. At the end of forty-eight hours, two vehicles of blood are distinguished, and pulsation of which are visible. At the fiftieth hour, an auricle of the heart appears. At the end of seventy hours, undistinguished wings, and on the head two bubbles for the brain, one for the bill, and two others for the forepart and hindpart of the head. The liver appears toward the fifth day. At the end of one hundred and thirty-one hours, the first voluntary motion is observed. Seven hours later, the lungs and stomach become visible, and the intestines, the loins, and the upper jaw was seen at the end of one hundred and forty-two hours. The seventh day, the brain, which is slimy, begins to have some consistence. At the one hundred and ninetieth hour of incubation, the bill opens and the flesh appears in the breast. Four hours after that the sternum is seen, that is to say, the breast bone. At the two hundred and tenth hour, the ribs come out of the back, the bill is very visible, as well as the gall bladder. The bill becomes green at the end of two hundred and thirty-six hours. About four hours later the feathers begin to shoot out and the skull becomes gristly. The eyes appear at the two hundred and sixty-fourth hour; and at the two hundred and eighty-eighth hour the ribs are perfect. At the three hundred and thirty-first hour, the spleen draws near to the stomach, and the lungs to the chest. At the end of three hundred and fifty-five hours, the bill frequently opens and shuts, and at the end of four hundred and fifty-one hours, or the eighteenth day, the first cry of the chick is heard.

Thus, it is by so many different degrees that these creatures are brought into life. All these progressions are made by rule, and there is not one without sufficient reason. No part of its body could appear sooner or later without the whole embryo suffering; and each of its limbs appears at the proper moment.

How astonishing, says a noted English writer, that all the parts of an animal's body should be concealed within this egg, and require nothing but heat to unfold and quicken them into life—that the whole formation of the chick should be so constant and regular that at exactly the same hour all these changes will occur, in the generality of eggs, and that the moment it is hatched it is heavier than the egg was before.—M. K. Boyer.

THE FEATHER EATING HEN AND HER CURE

When the hens are shut up in small quarters they are liable to form the disagreeable habit of feather-eating. This is due in most cases to some deficiency in the ration. While it occurs most commonly with birds that are closely confined it will sometimes develop with flocks that have wider range. Insect parasites is one of the most frequent causes. The birds in pecking themselves pull out their small feathers and swallow them. If the diet is unsatisfactory the moisture in the pinfeathers seems agreeable to the taste and they continue until the habit is formed. From plucking their own feathers they soon learn to pluck them from one another. The accident of pulling a feather

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Your guarantee of satisfaction lies in the Paroid roofs that have stood the severest weather during the last 19 years, and are still in fine condition.

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For your home, Neponset Twin Shingles are recommended, having the same good qualities as Paroid, and with crushed slate surface of Red or Green.

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Flattering to the Original

But Imitations Only Disappoint

There are many imitations of this great treatment for coughs, colds, croup, bronchitis and whooping cough. They usually have some sale on the merits of the original, but it should be remembered that they are like it in name only.

This is a facsimile of the package bearing portrait and signature of A. W. Chase, M.D.

READ THIS GRAND OFFER

of a phonograph or a lovely perfumed ball necklace free. We will send you 35 sets of 6 beautiful Easter and picture post cards. You sell them to your friends at 10 cents per set. Then send us our $3.50 and we send you by return mail, either one of these gifts you prefer Write to-day—no money required

without one cent of expense to you. When you send us our money as above, also send us the names of six friends who will sell our cards. As soon as they do this, we will send you ABSOLUTELY FREE this real MOVING PICTURE MACHINE, and a box of films. The pictures are clear and distinct, and will give no end of pleasure. Our catalogue of handsome gifts is ready. Send your name and address to-day.

Phonograph reproduces both vocal and instrumental music. Clear toned and will play Columbia and Victor Records.

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A FIRE can wipe out the savings of a lifetime, and human life as well. But lightning or fire cannot harm the building that is roofed with "Eastlake" Galvanized Shingles and sided with "Metallic" Siding.

Why risk your family's safety, or your buildings and belongings when the cost of a permanent, fireproof, "Metallic" roof and wall is little or no more than for inflammable kinds.

Before you build or repair write us for free booklet and information. We can show you *real economies* in many ways, including lower insurance rates.

We also make "Metallic" Ceilings, Corrugated Iron, Roof-lights, Ventilators, Silo-roofs, etc.

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IT'S WORK YOU WILL LIKE

"I like my work very much," is the almost universal expression of our graduates.

It is ONE thing to get WORK to do; it is quite another thing to have work that INTERESTS you, that you like to do.

Our boys and girls wear the smile of perfect satisfaction. And THAT IS SO VERY FUNDAMENTAL TO SUCCESS!

Why not? PEOPLE usually like to do the thing that offers the greatest reward. Start Now.

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THE WINTER TERM

of the

Fredericton Business College

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Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

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W. J. OSBORNE, Principal
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Try an Ad in the FARMER

when relieving the irritation caused by vermin leads to the habit but is not enough to confirm them in the vice if they are fed plenty of green material and animal matter. Birds forming the habit at moulting time may sometimes keep themselves partially naked all winter by pulling their pinfeathers as fast as they start.

One of the first things to be done is to separate the feather-eaters from the flock, as the vice is one that may be taught to others. In fact it is usually one or two birds at first that start the habit. Confining them in a small coop and feeding them well for two or three weeks will often result in remedying the habit. Away from other hens and well fed they seem to forget the feather pulling. If this is not effective put another hen in the same coop, after covering her with carbolated vaseline or some other substance that the birds will not like the taste of. This need not be used on the entire body bur on the back and parts that the feather-eater usually attacks. When this does not effect a cure a sharp knife should be used and the bird served on the family table. In valuable flocks when it is not desired to kill the hen, file the mandibles of the beak so they will not quite meet. This will not hinder the bird from eating but it will prevent her from grasping the feathers with sufficient strength to pull them out.

Idleness in the pens may cause the forming of the habit. Keep the birds busy. Make them work for their food and they will not be so liable to get into mischief. We have heard it said that certain breeds are more subject to this vice than others, but this seems to be a fallacy. If conditions are not right birds of any breed will contract the habit. A small quantity of sulphur fed in the mash occasionally will often prevent the vice and perhaps correct it when first formed.

CHAS. H. CHESLEY.

PREPARING POULTRY PRODUCE FOR MARKET

The householder who buys a poorly nourished and carelessly marketed chicken or fowl secures a very inferior article of food, whereas the purchaser of a well finished and properly prepared, crate fed bird, obtains a luxury. There is a corresponding difference between grades of eggs that are offered at many stores. To enlighten poultry keepers in the method of preparing both poultry and eggs for the market and placing thereon, the Dominion Department of Agriculture has issued an excellent bulletin. It is written by Mr. F. C. Elford, Dominion Poultry Husbandman and issued as Bulletin No. 88 of the Experimental Farms. It treats the subject in paragraphs bearing the following heads:—

Preparing Poultry Produce for Market, System of marketing, Packages, Marketing, Crate Feedinf, Killing, Plucking, Cooling and Packing.

The Bulletin is helpfully illustrated in showing the proper and improper methods of packing poultry as well as of modern egg cases, crates and other features connected with the industry.

The frontispiece, printed in coolrs, represents the roof of a bird's mouth, showing precisely where to sever the artery to bleed and where to penetrate the roof of the mouth to strike the brain causing immediate insensibility and easy plucking.

Copies of this Bulletin are obtainable from the Publications Branch of the Department of Agriculture at Ottawa.

More or Fuller Cans

Those who use Royal Purple Stock Specific secure from *3 to 5* pounds more milk from each cow per day. Figure the increase on even a small herd. It will pay you to feed Royal Purple to your cows, and steers can be fattened a month earlier by its use.

Royal Purple Stock Specific

is a digester, tonic, an animal conditioner. It aids digestion and assimilation and enables stock to get the maximum amount of good from the food eaten. Greater gains are secured from less grain, and the cost of the Royal Purple fed is very trifling. It will improve the condition of the worst, most run-down animal on your farm.

If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Royal Purple Stock Specific is put up in 50c. packages and $1.50 and $5.00 tins.

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FREE BOOK

Write for FREE 80-page booklet on the common diseases of stock and poultry and our other products. It tells how to raise calves without milk, also how to build hen-houses.

Cases of Eggs Winter and Summer

Keep your fowl healthy, active and vigorous by feeding Royal Purple Poultry Specific in their mash, once daily, and you will certainly get eggs, winter and summer.

Mrs. W. Jackson, Saskatoon, writes:
"Gentlemen,—I tried feeding your Royal Purple Poultry Specific last winter. I had fresh eggs all the time. Sold eggs from January to the 1st of March, and I know it was the Specific did it, and the hens looked healthy after using it. I started feeding them again this fall, and got eggs in less than a week."

Royal Purple Poultry Specific

Manufactured from roots, herbs, minerals, etc., is a complete substitute for the grasses, seeds, herbs and insects the hen picks up during the summer, necessary in making hens lay. Royal Purple Poultry Specific tones up the whole system, keeps the stomach and bowels right—prevents diseases, such as Cholera, Roup, Rheumatism, Typhoid and kindred diseases.

Mr. J. Brandon, Ayr, writes as follows:
"Dear Sirs,—Kindly send me one of your booklets. We djdn't have an egg all winter until we started using your Royal Purple Poultry Specific, and it is the best thing I have ever used. We are getting eleven to twelve eggs per day now on account of feeding them the right food."

Sold in 25 and 50c. packages and large $1.50 air-tight tins. Send for our FREE 80-page book on the common diseases of stock and poultry.

W. A. Jenkins Mfg. Co., Limited
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The Man Behind the Product

Years of patient research and countless experiments were necessary to perfect the matchless combination of rich Oporto Wine and Extract of Cinchona (according to the British Pharmacoepia and French Codex) found in:—

Wilson's INVALIDS' PORT

(a la Quina du Perou)

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BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

CANADIAN BORN

We first saw light in Canada, the land beloved of God;
We are the pulse of Canada, its marrow and its blood;
And we, the men of Canada, can face the world and brag
That we were born in Canada beneath the British flag.

Few of us have the blood of kings, few are of courtly birth,
But few are vagabonds or rogues of doubtful name and worth;
And all have one credential that entitles us to brag——
That we were born in Canada beneath the British flag.

We've yet to make our money, we've yet to make our fame,
But we have gold and glory in our clean Colonial name;
And every man's a millionaire if only he can brag
That he was born in Canada beneath the British flag.

No title and no coronet is half so proudly worn
As that which we inherited as men Canadian born.
We count no man so noble as the one who makes the brag
That he was born in Canada beneath the British flag.

The Dutch may have their Holland, the Spaniard have his Spain,
The Yankee to the south of us must south of us remain;
For not a man dare lift a hand against the men who brag
That they were born in Canada beneath the British flag.

—E. Pauline Johnson.

WHAT THE DEPARTMENT OF AGRICULTURE IS DOING FOR THE WOMEN OF NEW BRUNSWICK.

The New Brunswick Department of Agriculture is to be congratulated upon its efforts in bringing to the women of the Province a new knowledge of old subjects. For the practical study of such homely but necessary topics as millinery, cooking, sewing, home nursing and first aid, house planning and furnishing and a special class for Mothers, four short courses, each one of ten days' duration, are being held in the Agricultural Schools at Woodstock and Sussex. The work is being promulgated by the Women's Institute Division of the Agricultural Department, whose aim is ably set forth by the motto which graces the shore course programme, "For nothing lovelier can be found in woman than to study household good."

Miss Hazel E. Winter, Supervisor of Women's Institutes, in charge of the courses, has been fortunate in securing the services of competent and qualified teachers, each a specialist in her own specific line of endeavor.

Twenty-five years ago, in the city of New York, the Home Economics movement was introduced by Mrs. Helen Richards. Before this time, however, Economics pertained largely to money matters of the state. Today, "Home Economics stands for the utilization of the resources of modern science to improve the home life," and with this object in view and ever kept before the minds of the students, two successful Home Economics short courses have already been held at Woodstock. The attendance averaged twenty-four for the first course and fifty for the second. The courses at Sussex promise to be even better attended.

Miss Grace Tompkins, Milliner and Dressmaker, of Hartland, N. B., is in charge of the millinery and sewing classes. It is most interesting for the observer to see the students wending their way to the school as early as 8.45 in the morning with hat-bags and sewing materials, that they may be in their places to begin work at sharp nine o'clock. With the first lesson begins the interesting work of making over an old style hat into an up-to-date one. This cannot be accomplished, however, in the one lesson, but when completed, the teacher shows her pupils how to brighten trimmings, renew velvets, clean and color straws. With these accomplishments the delightful task of covering Spring shapes is the next move and at the close of the course pupils have in their possession a "once-laid-aside" hat converted into a modern one, and a new hat ready for Spring wear, together with the knowledge of knowing how to make and trim hats in the future.

The theoretical and practical cooking clases are directed by Miss Ada B. Saunders, of Florenceville, N. B. Miss Saunders was graduated from Mount Allison Ladies College, at Sackville, N. B., in Household Science, and is also Miss Winter's assistant.

Of exceptional interest is the cooking class. In these days of the abnormally high cost of living, one who can teach how to get the most out of the least, is truly a public benefactor. Miss Saunders shows by precept and example the food values of different food stufis, their combinations, and her every lecture is a revelation of the power every woman can exert if she imparts her knowledge gained through listening to the lectures. Knowing, however, that there is nothing which will fasten a theory in the minds of students as the practical working out of such a theory, with the laying aside of notebooks and pencils, work aprons are put on and soon all are busy preparing palatable and nutritious dishes. There are egg, dessert, pastry, apple, bread, fish, left-over and cake days, and one entire lesson is devoted to the correct serving of a three-course, properly balanced dinner.

The theme for this lesson is "Simplicity and Perfection." Such timely suggestions as conserving strength, budgeting time and saving steps are given, thus students are shown by actual demonstration that the family meal can be served without the assistance of a maid with little inconvenience. Miss Saunders says that the girl and boy, even before their teens, should be taught to help Mother at meal time, and when once they become accustomed to the proper method in serving, are invaluable for the assistance they render.

Little booklets on "Apples," "Fish" and "Left-overs" are given to the students as well as printed recipes of each day's lesson. At the close of the first course one student was heard to remark, "Here I have copies of all the recipes used in this course and how precious they will be to me in my home. I have looked them over carefully and I do not believe there is an expensive one among them." Quoting Hayward, it would seem that "dishes have been invented so attractive that they unceasingly renew the appetite, and which are at the same time so light that they flatter the palate without loading the stomach."

Again the observer sees the student returning to the school, with work-bag (and a precious bundle under one arm for the sewing period from two until three. The introduction to this class is to first of all master the various stitches by hand, properly take measurements, lay a pattern, cut and make a fitted lining. With these accomplishments begins the fascinating work of making a tailored blouse and a one-piece dress. Miss Tompkins gives suggestions for the tall, slight woman, the short, stout woman, etc., the styles for the Spring and Summer of 1917, and impresses her class with the fact that "the pursuit of

Women Once Invalids

Now in Good Health Through Use of Lydia E. Pinkham's Vegetable Compound. Say it is Household Necessity. Doctor Called it a Miracle.

All women ought to know the wonderful effects of taking Lydia E. Pinkham's Vegetable Compound even on those who seem hopelessly ill. Here are three actual cases:

Harrisburg, Penn.—"When I was single I suffered a great deal from female weakness because my work compelled me to stand all day. I took Lydia E. Pinkham's Vegetable Compound for that and was made stronger by its use. After I was married I took the Compound again for a female trouble and after three months I passed what the doctor called a growth. He said it was a miracle that it came away as one generally goes under the knife to have them removed. I never want to be without your Compound in the house."—Mrs. Frank Knobl, 1642 Fulton St., Harrisburg, Penn.

Hardly Able to Move.

Albert Lea, Minn.—"For about a year I had sharp pains across my back and hips and was hardly able to move around the house. My head would ache and I was dizzy and had no appetite. After taking Lydia E. Pinkham's Vegetable Compound and Liver Pills, I am feeling stronger than for years. I have a little boy eight months old and am doing my work all alone. I would not be without your remedies in the house as there are none like them."—Mrs. F. E. Yost, 611 Water St., Albert Lea, Minn.

Three Doctors Gave Her Up.

Pittsburg, Penn.—"Your medicine has helped me wonderfully. When I was a girl 18 years old I was always sickly and delicate and suffered from irregularities. Three doctors gave me up and said I would go into consumption. I took Lydia E. Pinkham's Vegetable Compound and with the third bottle began to feel better. I soon became regular and I got strong and shortly after I was married. Now I have two nice stout healthy children and am able to work hard every day."—Mrs. Clementina Duerring, 34 Gardner St., Troy Hill, Pittsburg, Penn.

All women are invited to write to the Lydia E. Pinkham Medicine Co., Lynn, Mass., for special advice,—it will be confidential.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, *before they pay for them*, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it.

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes six minutes.

State whatever you prefer a washer to operate by Hand-Engine Power-Water or Electric Motor. Our "1900" is very complete and cannot be fully described in a single booklet.

Address me personally, S. E , Morris, Mgr., Nineteen Hundred Washer Co , 357 Yonge St., Toronto, Ont. (Factory: 79-81 Portland St., Toronto.)

things fashionable for the sole reason that they are fashionable, is not an exalted occupation and is, indeed, a somewhat sheeplike attribute." While the students are putting final touches to their work the closing day in the millinery and sewing classes, Miss Tompkins gives it careful inspection and awards, not for the quantity, but for the quality, the prize of $5.00 as given by the Department of Agriculture.

Miss Gertrude MacKinnon, of Fredericton, N. B. who was graduated from the Fredericton Victoria Public Hospital and afterwards took a post-graduate course at Corey Hill Hospital, Brookline, Mass., is the teacher in hone nursing and first aid and the special class for Mothers. Her periods each day are from three until four and five until five-forty. Having had the experience of a teacher, Miss MacKinnon makes her lectures so forceful and her questions so direct, a pin can be heard drop at any time during her classes. Although she impresses you with the fact that "just health is a lot to be thankful for, plain every-day health; with everything working together so well you don't ever think about your system at all, yet the time will inevitably come when some one in the home becomes ill and a nurse is required. If the daughter or mother is qualified, **and has the strength,** to take care of the sick, so much the better for the family income. Then is shown from day to day by lecture and demonstration, and the helpful suggestion coming from a student who has had to care for a sick person, the essential points in home nursing. Naturally, the location of the sick-room, proper ventilation, contents, its care and the garb of the nurse receive first attention. The second day is taken up with the interesting work of preparing the bed for different cases. The third day one of the pupils becomes suddenly ill, (accidentally on purpose) is undressed, and put in bed. She is given an alcohol bath and behold—is completely restored to health.

From day to day follow helpful lectures on contagious diseases among children, fumigation after contagious diseases, observation of symptoms, administration of food and medicine. Demonstrations to better impress the students how to care for helpless patients. what to do in the care and treatment of emergency nursing are given. "Keep cool" is the first axiom for the nine common emergencies Miss MacKinnon treats. They include scalds and burns, fainting, epileptic fits, shock, drowning, hemorrhage, bleeding from the nose, sprains and fractures. All evidence much interest in the several bandaging demonstrations and at no time does Miss MacKinnon find it difficult to secure a patient in her class.

The class in house planning and furnishing is at a popular hour in the afternoon, from four until five. Members of the Institute in the town who cannot find it convenient to leave their home duties in the morning, attend the afternoon lectures and are enthusiastic over this class. Miss Elaine Borden, of Sackville, N. B. the teacher, is a graduate of Mount Allison Ladies College and has also taken a post graduate course in Arts and Crafts at Columbia University.

The first and second lessons treat with the house, the four types of American Domestic architecture and how they are recognized. These are illustrated with pictures and charts of colors for houses and roofs. Miss Borden invites discussion and with illustrations of house-plans on the blackboard, explains the convenient arrangement of the rooms. A home task for the student is to draw a plan of a well-arranged house. "Thoughts are but dreams till their effects be tried," and the originality of the students in this regard is very pleasing to the teacher. "A house plan is regarded as being successful only when it meets the requirements for comforts and convenience of the particular family for which it is intended."

You can't beat

Old Dutch

for taking rust and stains off knives

Fix Up Your Barn and Make Work Easy

Do your chores in half the time. Feed and water the cows quicker, clean the stable quicker, fill your mows in a hurry at harvest time. Modern fittings for the barn save work enough to pay for themselves in a few years. They are the solution to the labor problem.

Barn Book Shows How

It tells how to build a barn from start to finish and how to fix it up. Shows how to do all the cement work yourself and build and erect the frame. Tells about the BT Steel Stanchions, Steel Stalls, Steel Horse Stable Fittings, Water Bowls, Hay, Feed and Manure Carriers.

Send Coupon

Book is fully illustrated with blue print plans and full page photographs, and many useful tables of cost of cement work, capacities of mows, etc. It is invaluable to any man who is building a barn. The regular price is $1.00, but we are sending one copy free to every farmer who builds. Simply mail coupon.

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Send me your barn book free.
Are you building?.....
When?.....
How many cows?.....Horses?.....
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P.O.....Prov.....

the things they must perforce use, that is the one great office of decoration." The study of color is very interesting, and Miss Borden shows by a blackboard drawing how the location of various rooms very often decides the color scheme.

A short history of old English furniture, Tudor, Jacobean, Dutch influence and Georgian, with their effect on early and modern American furniture comprises the fourth lesson. Pictures of these types of furniture are shown and the student better understands the characteristics of the various styles. The rooms in the house specifically discussed include the bedroom, bath-room, living-room, dining-room and kitchen. Such hints are given as "usefulness and beauty should go hand in hand, as far as possiblefi in making selections, but the useful should always lead the way." "One thing to be studiously avoided is overfurnishing." "Simplicity is always in good taste, no matter what it is dealt with."

The arrangement and planning of convenient kitchens and labor- saving devises was possibly the most interesting lecture of this class and called forth more discussion. "A woman who does the housework for an average family walks as far as the distance around the world in six years. She can be saved nearly half that walking by a properly arranged kitchen." The modern kitchen should be small and square, plenty of wall space and ventilation, with a north-east exposure. The working surfaces should be even with the palm of the hand and the aim should be to do the most work in the least time. Much practical information was given, and the pictures of the ideal kitchen Miss Borden passed around made every housekeeper present realize that although she could not have all the modern appliances included in those pictures, at least she could so re-arrange her kitchen and introduce some devices as would make housework less burdensome for her.

The special class for Mothers, like the millinery, was newly introduced this year, and their popularity and helpfulness indicate that by all means they will be included in the courses for 1918. The young mother may be in the majority, but the grandmother and young, unmarried woman attend this class; the grandmother to give the younger folk present the benefit of her experience, and the young woman to learn all she can of what is to benefit her in married life.

"Of all sad things of tongue or pen, the saddest of these, 'It might have been.'" More than one young Mother was heard to remark "Oh if I had only known that before my baby came, what trouble could have been avoided." From day to day lectures are yiven on baby hygiene, care of Mother before confinement, preparation for confinement, preparation for confinement, care of Mother for first week, care of baby for three days, convalescence, complications followiny confinement and sex hygiene. As in the home nursing class, on the ninth day any personal questions which have previously been placed in a question box, are answered. Not even the nurse knows who asks them, so this does away with timidity on the part of students to have matters solved that have been puzzling them. One can readily understand the value of such a class on the present and coming generations.

The Department of Agriculture makes it possible for women in all parts of the Province to obtain the knowledge derived from such courses. All railway fares over Two Dollars are refunded, then each student has the equal chance of winning in prizes amounting to Ten Dollars, the sum of Five Dollars being offered in the millinery and sewing classes combined, coobing, home nursing and first aid, house planning and furnishing, and the special class for Mothers, making a total of Twenty-five Dollars offered at each course.

The intrinsic value of these Home Economics short courses cannot be overrated. The sociability is a strong element of the course. Thirty students are permitted to enter the millinery, cooking and sewing classes, when twenty-four is what the public school considers a large class. While fingers are busy, tongues very often keep pace with them, and frequently students, who all by the way are members of Women's Institutes, give and gather data concerning Women's Institute work that will be benevcial to their Institutes upon their return home. Some women have joined a branch merely to take the course but they listen attentively to the discus-

GRAY-DORT ROADSTER
3 PASSENGER FLEUR-DE-LYS $910

Quickest Motor Car Success in Years

The motor car industry has seen some wonderful successes—but never a more astounding triumph than that of the Gray-Dort.

Our first model was announced in December, 1915. The Gray-Dort was then unknown. Only one announcement was made. *But in 3 days our entire 1916 output was sold.* Dealers clamoured for more cars. Many motorists were disappointed.

For 1917 we increased our output tremendously. But the same scenes were repeated. Dealers came from all over Canada and asked for more than the entire output.

"The Quality Goes Clear Through"

It's a Wonderful Car

Wonderful Motor Silent, powerful, light and efficient, thrifty of gasoline and oil, speedy.

Wonderful Comfort Lots of room in the seats—lots of leg room—deep upholstery—long cantilever springs—handy driving—Westinghouse starting and lighting—easy gear shift.

Wonderful Value We have built this car with the sole aim of consistent continued performance of the very highest standard. Materials are of the finest—construction honest. The value is unprecedented.

A. L. PELTON CO.,
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MOTOR CAR & EQUIPMENT CO.,
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SPECIFICATIONS

MOTOR—4-cylinder, bore 3¼ in., stroke 5 in., horsepower 28. Carter carbureter. Thermo-syphon cooling. Westinghouse two-unit starting and lighting system. Connecticut battery ignition. Three speed and reverse selective transmission. Gasoline tank under cowl. Springs—front 37 in. elliptic, rear 50 in. full cantilever. 30x3½ Dominion tires. Nobby tread rear. Westinghouse electric lighting. Linoleum covered running-board. Lock ignition switch. Dashlight, ammeter, roberail, footrail, clear-vision windshield, one-man top, tools, equipment complete.

5 passenger touring model $910
3 passenger roadster model $910

Gray-Dort Motors, Ltd.,
Chatham, Ont.
American Factory at Flint, Mich.

Children Like It

It is not an easy matter to get a medicine that children like, or to force them to take one they don't like. Most mothers know that a cough medicine, while palatable, should contain no drug injurious to the child. The great popularity of

Chamberlain's Cough Remedy

is explained by the fact that it contains no opium or narcotic of any kind, and at the same time is so pleasant and agreeable to the taste that children like it. For this reason it is a favorite with the mothers of young children.

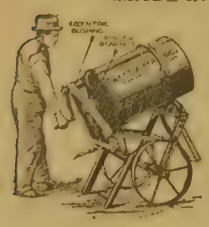
Yours for health,

—Gramj Chamberlain

28

Concrete Machinery for Farm Use

(MADE IN CANADA.)



Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas. Engines.

Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO., Dartmouth, N.S.

Rich AND Mellow

You'll Like the Flavor

MOTHER
SEIGEL'S
SYRUP

The proof of Mother Seigel's Syrup is in the taking. That is why former sufferers, whose vitality was being sapped by Indigestion, say it is *just excellent* for stomach, liver and bowel troubles. Thanks to Mother Seigel's Syrup, they are now strong and well.

IS EXCELLENT FOR

If you are afflicted by Indigestion or other disorders of the stomach, liver and bowels take Mother Seigel's Syrup regularly for a few days; long enough to give it a fair chance to make its beneficial influence felt. Then note the improvement in your appetite, your strength, your general condition. 3015

HEADACHES, BILIOUSNESS
CONSTIPATION
INDIGESTION.

Ther..ottle of Syrup contains three times as much as the 50c size.

sions and here and there one decides "if the one she has joined is too far away for her to attend the meetings, she is going to do her best to interest the women in her community to organize a branch." Bless her, that woman believes in progress!

The other classes are not limited in number so each day sees every chair occupied, and the worth of the entire course is summed up in the words of the students, "It is a privilege every housekeeper should take advantage of."

Similar courses will be given the winter of 1918, with very likely one or two new classes introduced. It is to be hoped that as many women as possible will avail themselves of this educational instruction so vitally important to the home of New Brunswick.

CHEESE

Cheese is the curd of milk, drained, salted and pressed. Cheese made from unskimmed milk is about one-half fat, the fat globules being entangled in the curd. Skimmed milk cheese is sometimes "filled" by having lard or other cheap fat added to it. "Filled" cheese is greasy when warm, has little flavor, and does not keep well.

Food Value of Cheese.—Cheese, like eggs, is a food containing much nourishment in small bulk,—a concentrated food. It should be used more commonly than it is. Also it is a good substitute for meat, macaroni cooked with cheese being hearty enough to form the main dish of a meal. One pound of cheese contains as much nutriment as two pounds of meat. So as far as food value is concerned it is a much cheaper source of nutrition than meat. Unfortunately it is somewhat difficult of digestion, and for this reason should not be eaten by delicate persons or by young children. It is much more easily digested if grated or melted. For healthy people, particularly for men engaged in active work, it is one of the best of foods.

Cheese Relish.

1½ cups cooked rice, ½ cup grated cheese, 1 cup white sauce, 1 cup buttered crumbs.

Cook rice, add to white sauce, add cheese, place in buttered baking dish, cover with crumbs and brown. Two cups cooked cabbage may be used in place of the rice and makes a delicious scallop.

Cheese Sauce on Toast.

2 tbsp. butter, 2 tbsp. flour, ¼ tsp. salt, cayenne, 1 cup milk, 1-3 cup grated cheese.

Make white sauce, add cheese. Stir until melted and serve on toast or wafers.

GET THE WALKING HABIT

(Written Last Fall but still Good)

These are the days to walk. Country roads, wind-swept and dry, or rain-swept and damp, call to you. The nut crop, we hear is a failure, but throwing broken limbs into treetops is just as good exercise as it always was.

Shoe leather, we know, is going up in price; but don't be afraid to wear out your shoes on that account. Long walks in the country, or between your home and your work, or through the park of an evening or a Sunday, form one of the best little insurance policies in the world.

Walking is the best of exercises; every muscle in your body will respond if you swing your arms, fill your lungs and set out for a spot on the far horizon.

Wear out your shoes, then; that's what they're made for—to take the wear that otherwise would scrape and cut your feet. The man or woman who wears out half a dozen pairs of shoes a year, through frequent walking, seldom fills an early grave.

A pair of shoes today is cheaper than a coffin to-morrow—and walking is more fun than lying in a grave.—Patterson (N. J.) Press-Guardian.

Montreal Man Tells Wonderful Story

BAD CASE OF BRIGHT'S DISEASE CURED BY DODD'S KIDNEY PILLS

George Sullivan, Who Suffered From The Dread Disease for Two Years Gives Credit for His Recovery to Dodd's Kidney Pills.

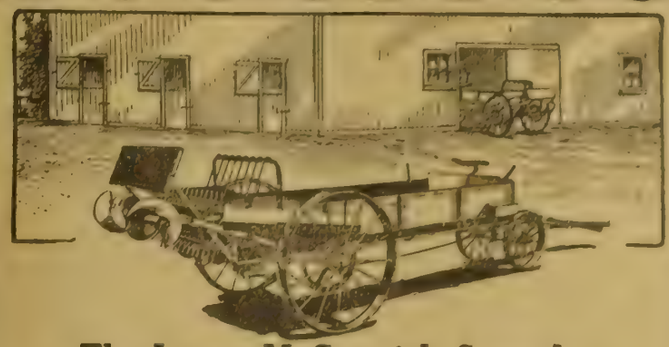
Montreal, Que., March 20th, (Special.)—Completely cured of that most dreaded of all diseases, Bright's Disease of the kidneys, Mr. George Sullivan, 284 de St. Valiers St., this city, is spreading the good news that he found his cure in Dodd's Kidney Pills.

"I suffered from Bright's Disease for two years," Mr. Sullivan states in an interview. "I was unable to work for weeks at a time. I spent hundreds of dollars on doctors without receiving any real benefit and received outdoor treatment at the Montreal General Hospital.

"I was feeling very badly discouraged when a friend advised me to try Dodd's Kidney Pills. After using three boxes I was much better. I kept on till I had used nine boxes, when I was completely cured.

"Naturally I consider Dodd's Kidney Pills a wonderful remedy."

Dodd's Kidney Pills are no cure-all. They cure kidney diseases of all kinds from backache to Bright's Disease. The proof of this is their growing popularity in Canada for over a quarter of a century. If you haven't used them ask your neighbor about them.



The Latest McCormick Spreader

WE now offer to farmers a spreader that makes 20 loads of manure do the work for which 40 used to be required. Besides making this important saving, it is a light draft machine, low, only 43 inches to the top of the box, yet with ample clearance, and it is provided with the most effective wide spreading device.

The spiral you see just behind the beater does the work. It catches the manure just as it comes from the beater, breaks it up into still finer pieces and spreads so much wider than the machine that the rear wheels always travel on uncovered ground when matching the last strip. The spread is even all across, the same in the center as at the edges.

By the use of the **McCormick** spreader, stable manure becomes at once the cheapest and the most effective fertilizer for most soils. The spreader is made in two sizes, No. 5 for small truck farms and No. 6 for large farms.

Send your name and address to the nearest branch house and let us give you the details of this latest and best manure spreader.

International Harvester Company of Canada, Limited

BRANCH HOUSES

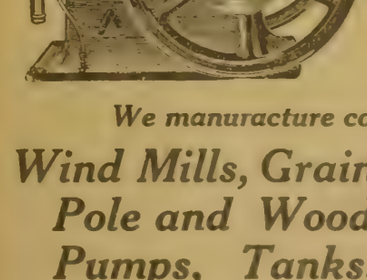
WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

Brantford Gasoline and Oil Engines

Stationary, Mounted and Traction

We manufacture the most complete line of Engines on the market. Send for Catalogues.



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Brantford
Engine
is the best that money can buy.

We manuracture complete lines of

Wind Mills, Grain Grinders, Steel Pole and Wood Saw Frames, Pumps, Tanks, Water Boxes, Concrete Mixers, etc.

Agents Wanted in Unrepresented Territory

GOOLD, SHAPELY & MUIR CO., LTD., BRANTFORD, ONT.

A. McCAUSLAND, Victoria Hotel, St. John, N. B., Maritime Representative

Sick Headache and Biliousness

CURED BY

MILBURN'S LAXA-LIVER PILLS.

Mrs. Willard Tower, Hillsboro, N.B., writes: "I have suffered something awful with sick headache. At times I would become bilious, and would have severe pains in my stomach after eating, and have a bad taste in my mouth every morning. I told some of my friends about it and I was advised to use Milburn's Laxa-Liver Pills. This I did and and they cured me."

When the liver becomes sluggish and inactive, the bowels become constipated, the tongue becomes coated, the stomach foul and sick and bilious headaches occur.

Milburn's Laxa-Liver Pills clean the foul coated tongue and stomach and banish the disagreeable headaches.

Milburn's Laxa-Liver Pills are 25c. per vial, 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont

COMMON POISONS AND WHAT TO DO FOR THEM

A poison may be defined as a substance which, when introduced into the system, or applied externally, injures health or destroys life. Poisons may be classed as corrosives, irritants, and neurotics.

The action of poisons is local or remote, or both local and remote. The local actions of a corrosive poison are usually so well marked that they are easily recognized, but the symptoms of mineral irritant poisoning so closely resemble those of natural diseases as to render the diagnosis a matter of great difficulty.

The following are the most common of the corrosive poisons: the mineral acids—sulphuric, nitric, hydrochloride, and oxalic; the alkalies—potash, soda, and ammonia acid; and the alkaline and corrosive salts, such as acid sulphate of potassium, carbonate of potassium, chloride of zinc, tin, antimony, and nitrate of lsiver.

The action of the corrosive poisons is purely local. The symptoms are marked and unmistakable. After the corrosive substance has been swallowed a burning sensation is felt in the mouth, gullet and stomach, and this sensation rapidly extends over the whole abdominal region. This sensation is followed by vomiting, which gradually increases in severity. The mouth and tongue exhibit local egects of the corrosive. There is marked thirst, a shortness of breath, rapidly bounding pulse, and profuse cold perspiration. The intellect is usually clear until death.

In treating corrosive poisons the use of a stomach pump should be avoided, as there is always danger of perforating or puncturing the walls of the stomach. A soft stomach tube may be used with safety. Until the doctor comes the corrosive poison may be neutralized by giving lime water or, better still if it is at hand, saccharated lime water, or very weak solutions of caustic alkalines, or very frequent doses of chalk whiting. If it is the caustic alkalines which have caused the trouble, give large drinks of very weak acid solutions.

The following are some of the symptoms and remedies for specific poisons of the corrosive group: Carbolic acid (creosote) causes pain in the stomach, whitening of the lips and mouth, stupor and heavy breath, and narrowing of the pupils of the eyes. For carbolic acid poisoning give epsom salts in warm water. Later give oil of some kind, or milk, and strong cogee or tea. Apply hot blankets and hot water bottles to the feet and legs. Oxalic acid (so-called acid of sugar) causes burning pains in the stomach, intense vomiting, cold perspiration, and convulsions. Give chalk, lime water, gruel or linseed tea. Give strong coffee or other stimulants. With hydrocyanic acid death is usually so rapid that nothing can be done. The most hopeful things to do are to use artificial respiration, and to make hot or cold applications to the face and chest. Poisoning by caustic alkalies and carbonates is rare, but in case of such poisoning give vinegar and water and later milk and arrow root.

Irritant Poisons

Irritant poisons are of three classes—metallic, vegetable, and animal irritants. Symptoms usually develop more slowly than with the corrosive poisons. Sometime after the irritant has been swallowed—length of the time depending upon the specific character of the poison—burning pain develops and constriction of the mouth and throat and gullet. This is followed speedily by sharp, burning pains in the upper part of the abdomen, nausea, vomiting, thirst, rapid and feeble pulse, collapse, convulsions, and unconsciousness. These symptoms are sometimes confused with those of gastritis, severe colic, rupture of the stomach or intestines, or peritonitis.

The metallic irritant poisons which are most common are copper sulphate (blue vitriol or blue-stone), lead acetate (sugar of lead), corrosive sublimate (mercuric chlorid or bichlorid of mercury), arsenic (Paris green), and phosphorus (matches and rat poisons).

The symptom of blue vitriol poisoning is pain in the upper part of the abdomen. Give white of eggs and milk. Sugar of lead poisoning may be known by constriction in the throat and crampy pains in the stomach. Give an emetic; epsom salts in warm water. Corrosive submlimate poisoning produces an acid metallic taste and sets up a burning heat in the throat and stomach. Give white of egg. Later give strong coffee or tea and apply hot water bottles and hot blankets. Arsenic poisoning causes faintness, nausea, burning pains in the upper part of the abdomen, and headache in the fore part of the head. Give an emetic, soap and water; white of eggs and castor oil. Phosphorous gives a garlic smell to the breath and causes prostration. Give an emetic, such as epsom salts, and strong stimulants.

A common vegetable irritant is croton oil, which causes pain in the stomach, vomiting, and diarrhea. Give an emetic, brandy and the white of eggs.

For poisoning by some of the animal irritants, such as Spanish fly, hair lotions and blistering fluids, give emetic, white of eggs, milk and gruel. Avoid oil for these poisons. The symptoms are an acid taste, vomiting, and purging.

Neurotic Poisons

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Under the heading of neurotic poisons may be ranged a great number of poisons producing symptoms which have this in common. They are more or less prominently associated with the nervous system. Neurotic poisons include the pure narcotics, such as opium and morphine, and numerous other poisons such as chloroform, strychnine, aconite, belladonna, alcohol, phenol, etc. The symptoms of these poisons necessarily are of the most varied character.

Of these poisons, opium is the most common, and may come from laudanum, paregoric, or soothing syrups. Opium produces a period of excitement, followed by deep sleep, with slow, heavy breathing, contracted pupils, clammy perspiring skin, with all other secretions of the body more or less suppressed. For this poisoning give an emetic and apply ammonia to the nostrils. As soon as the emetic acts well, give black coffee and produce artificial respiration. Keep the patient awake. Force him to walk and keep him from being quiet.

Belladonna causes a flushed face, burning skin, delirium, thirst, dilated pupils, rapid pulse, and quick breathing. Give emetics, such as castor oil,

PEERLESS PERFECTION
Absolute Security
WHEN you go away for a day or turn in for the night, you are certain your stock is locked in—they can't get over, under or through the spaces—a perfect fence for hilly or uneven ground, through streams; protects poultry, ducks, geese, sheep and hogs. Can't sag or break down and will turn an unruly horse
Peerless Perfection Fencing
is made of best heavy Open Hearth steel fence wire, the impurities burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off. Every intersection is securely clamped with the famous Peerless Lock.
Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.
Dealers nearly everywhere. Agents wanted in unassigned territory.
The Banwell-Hoxie Wire Fence Co., Ltd.
WINNIPEG, MAN.
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PEERLESS
THE ALL AROUND
FENCE

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

Let Him Help Himself To
CROWN BRAND
CORN PURE SYRUP
IT will do more than satisfy his craving for "something sweet"—it will supply the food elements needed to build up his little body and help him to gain in health and strength.
"Crown Brand" is a wholesome, nourishing food—as well as the most delicious of table syrups.
The recipes in our new book, "Desserts and Candies", will tell you just how to use it, in many novel ways. Write for a copy to our Montreal Office.
Dealers everywhere have "Crown Brand" in 2, 5, 10 and 20 pound tins—and 3 pound glass jars.
EDWARDSBURG
CORN SYRUP
THE CANADA STARCH CO. LIMITED
MONTREAL, CARDINAL, BRANTFORD, FORT WILLIAM.
Makers of "Lily White" Corn Syrup, Benson's Corn Starch and "Silver Gloss" Laundry Starch.
222

and strong coffee.

Chloroform poisoning may be detected from the breath of the patient. The pulse will be feeble, pupils large, and the breathing difficult. If the chloroform has been swallowed, give an emetic, and as soon as it has acted, baking soda in water. Practice artificial breathing. When the doctor arrives, electricity may be employed to keep breathing going.

Strychnine causes convulsive spasms with arching of the spine, difficult breathing, and feeble pulse. Give emetics. Chloroform may be freely inhaled to allay the spasmotic contractions of the muscles. Above all, the patient must be kept warm and quiet.

Spotted hemlock (a common wayside plant) is another neurotic poison which may cause death unless action is speedy. It causes headache, vomiting, purging, feeble and irregular pulse, delirium, sweats, and convulsions. Give emetics, strong tea in quantities and other stimulants. Keep the patient warm and practice artificial breathing.

Act Quickly

All the directions for treating the various kinds of poisoning may be summed up in these few simple rules:

1—Get rid of the poison
2—Stop its action
3—Remedy the mischief it has done
4—Fight against the tendency to death.

Never wait for a remedy, however perfect, if any imperfect remedy is at hand. That remedy is best which is the readiest. The grand rule to follow in case of poisoning is—lose no time.

TO CLEAN SILVER

Put four quarts of boiling water in an agate pan and place on the stove. Put a small piece each of zinc and aluminum in the water. Use an old Mason fruit-jar cover and an old aluminum drinking-cup. Add two tablespoonfuls of salt and one tablespoonful of baking-soda. Put in the silver to be cleaned and let it remain from three to five minutes, or until it looks bright, then take it out and wash in hot, soapy water, and dry. Your silver will look like new.

This is especially good for engraved silver, as it cleans all the little places much better than a polish, and does not in any way injure the silver. This should not be used on plated ware.

SUCCESS WITH BEGONIAS

Set the begonia in a box or pot filled with rich soil and sand mixed, putting gravel and charcoal at the bottom. Water freely to make nice thrifty plants. Keep in a warm, partially shady situation, on an east or north porch. Never let a begonia set out where beating rains can strike it, as the stalks and leaves are tender and easily broken and the plants do not thrive when not under shelter. In cold weather keep the plant in the house where as even temperature as possible can be had, where it will not get chilled or frozen.

I now have a begonia four years old called "President Carnot," seven feet high, that I have handled as above described. Carefully reset every spring in fresh soil. It is a remarkable strong growing variety, foliage very large, flowers beautiful coral red in large pendant panicles similar to Rubra, but very much larger.—Mrs. W. A. Owen.

MEAT LOAF

Two pounds of lean beef, one-half pound of pork, one tablespoonful of chopped parsley, one-half cup of bread crumbs, one-half cupful of strained tomato, two teaspoonfuls of salt, one-half teaspoonful of onion juice, and one-quarter teaspoonful of pepper. Grind the meat very fine. Add the other ingredients and press into a firm roll. Bake thirty minutes. Have a hot oven to sear the surface, then cook more slowly. Baste with a liquid of one tablespoonful of butter and half a cupful of hot water. Serve with tomato sauce.

A SKIRT RACK

Many readers of the Maritime Farmer who are crowded for closet room may be glad to know of the skirt rack which holds eight skirts and may be attached to the inside of the closet door. This rack is an oblong frame, a little longer than half the length of the door, and a little narrower than the width of the door. In this frame are fastened eight rods. The lower edge of the frame is fastened to the door with hinges, and a cord is attached to the upper end of a pulley fastened near the top and centre of the door, thus making it easy to raise and lower the rack. The rack is dropped to a horizontal position, the skirts are folded and laid over the rods. and the rack is then pulled up against the door.

HINTS FOR HOUSEKEEPING

Ants in the pantry: Spread a thin coating of lard over a plate and set it on shelf near their entrance. Stir it up and spread again the next day.

Ant hills on the lawn: Get a four-ounce bottle of bisulphite carbon, bore holes in and about the hill, pour a few drops into each hole, and cover with earth.

Anaemia

"Only tired."

This is the way anaemic, bloodless people usually describe their condition.

But there is a pallor of the lips, eyelids and gums which denotes the weak, watery state of the blood.

Tired feelings tell of muscular weakness. Failure of the digestive organs indicates their weakened action. The system is running down because the blood is lacking in the nutritive element which is necessary to rebuild the cells wasted by the daily work and in the process of living.

In this weakened condition one is an easy prey to colds and all contagious diseases. The blood must be enriched by such restorative treatment as Dr. Chase's Nerve Food before you can hope to regain strength.

Anaemia does not correct itself, and, consequently, the greatest danger lies in neglecting to take active treatment until the strength is too far wasted.

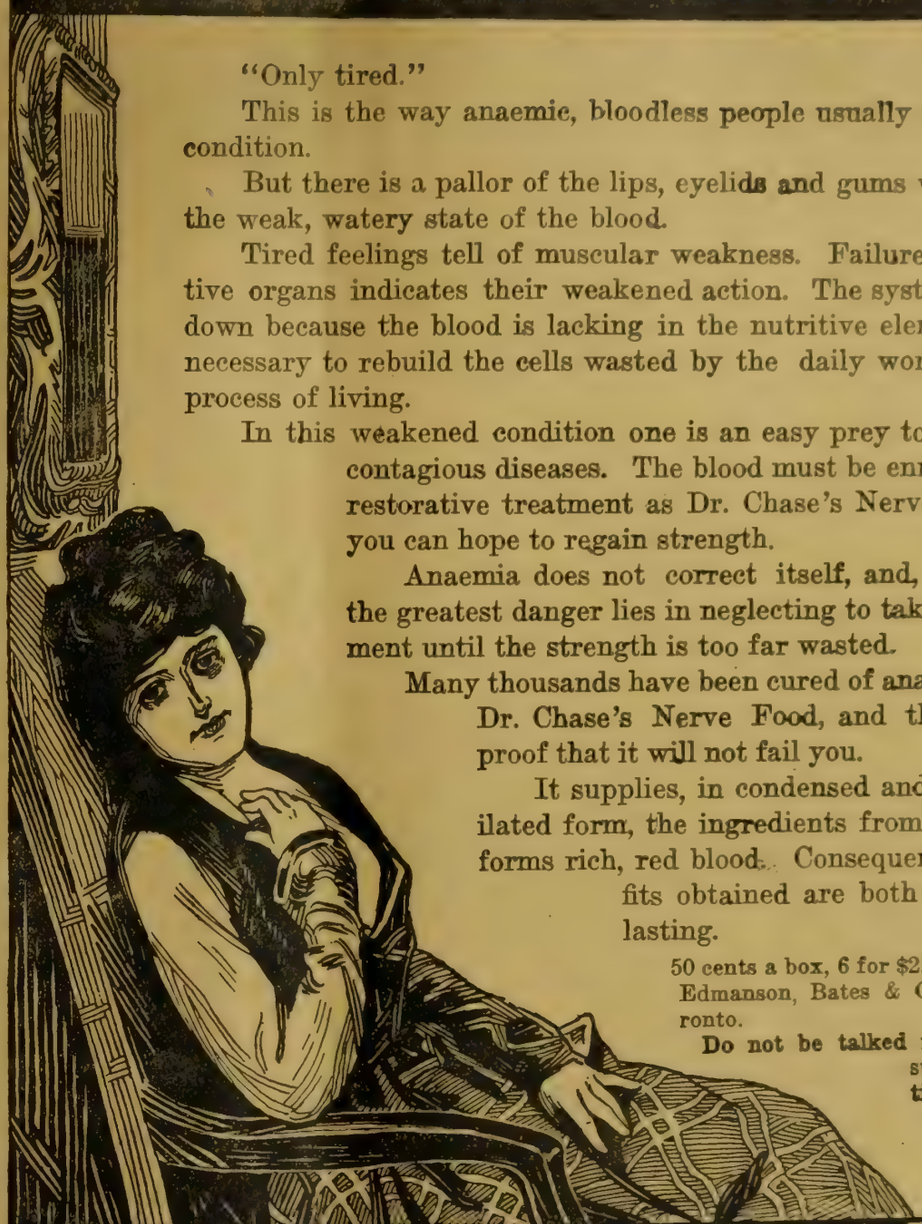
Many thousands have been cured of anaemia by using Dr. Chase's Nerve Food, and this is the best proof that it will not fail you.

It supplies, in condensed and easily assimilated form, the ingredients from which nature forms rich, red blood. Consequently, the benefits obtained are both thorough and lasting.

50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

534



DR. A. W. CHASE'S NERVE FOOD

THE N. B. APPLE PACKING SCHOOL A GRAND SUCCESS

(Continued from page 325)

this evening resolve that we are going to come back in a year's time to a similar meeting and be able to say that our orchards are in better condition and have been better looked after than ever before, and further that we have been able to get one or more of our neighbors interested in the good work.

I trust that the present year may be a very prosperous one for all of you in every respect and particularly in your orchard work.

Improve Fruit Growing

In moving the following resolution, which was adopted unanimously, Mr. Vroom referred to the various steps taken by the Government during the last six years to encourage and improve fruit growing:

Whereas, it is well established that New Brunswick has an abundance of lands well adapted to the successful production of the apple and small fruits and that these lands are favorably situated with respect to transportation and marketing facilities;

And whereas, prior to 1910, the governments of the province had given little or no attention or assistance to fruit growing;

And whereas, the appointment in 1910 of a horticulturist and the building up since that time of the Horticultural Division, with the employment of additional practical demonstrators, the holding of three large apple shows, and other effective steps, all of which were made possible by the voting of efficient appropriations for the encouragement of fruit growing, have given the industry a decided impetus, encouraged the fruit growers in their work, advertised the province's attractive agricultural resources, and in general have placed apple orcharding in this province on a permanent foundation upon which a large and profitable industry may be safely built up;

Therefore resolved, that this meeting or convention of the fruit growers here assembled, representing nine counties of the province, does place itself on record as approving heartily of the assistance and policy for encouragement of fruit growing as carried out by the Government since 1910;

And further resolved, that it respectfully requests and urges upon the Government the advisability and necessity of maintaining the Horticultural Division at its original maximum strength and of continuing, and, if possible, of extending the good work done for the encouragement of fruit growing in New Brunswick.

Immense Possibilities

In speaking to the resolution, Mr. W. W. Hubbard referred to the great possibilities of the province in fruit growing, and pointed out that the three apple shows had been valuable advertisements in showing to the world at large what we have and what we can do in apple production, and generally advertising the attractive agricultural resources of the province.

Mr. S. B. Hatheway said that, as a charter member of the Association, which was formed in 1904, it had been a hard struggle to keep it alive and hold meetings during the first few years, and he was particularly delighted with its growth and progress and the healthy spirit of optimism. He also referred to his own orchard experience and said that growers generally should be first as ready to speak of the practices which they found unsuccessful as well as of their successful ones. He then presented the following resolution:

Whereas, we understand that Mr. George E. Sanders, who for some years past has been in charge of the Brown-Tail Moth campaign and spraying investigation work in Nova Scotia for the Dominion Entomological Branch, has been relieved of the first-named work, and henceforth will devote all his time to spraying experiments for the control of insects, and, incidentally, fungus diseases, in the Maritime Provinces, and that, therefore, he will be able, at least, to carry on some of that work in New Brunswick;

Therefore resolved, that this meeting or convention of the fruit growers here assembled, representing nine counties of the province, does place itself on record as commending the action of the Dominion Entomological Division in taking this step, which makes the carrying on such work in New Brunswick possible.

The resolution was carried.

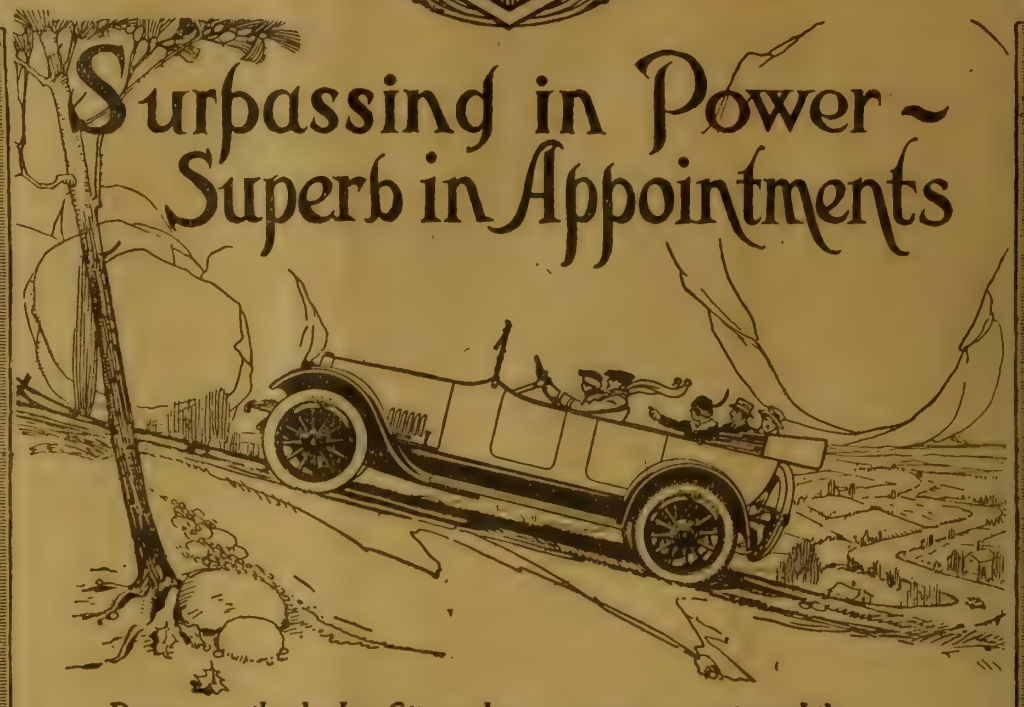
Mr. J. B. Daggett, Secretary for Agriculture, in a strong address, emphasized the value of co-operation and the importance of quality in all our work. Mr. Daggett also referred to the advertising value of the apples sent over to the London office. He thought there was a great future for the apple industry in this province and concluded by expressing his faith in New Brunswick and wishing the fruit growers a high measure of success in their work.

Show Appreciation

The following resolutions, which were unanimously adopted, were presented respectively by A. R. Gorham, of Grey's Mills, and Mr. R. A. Fillmore:

McLAUGHLIN

Surpassing in Power ~ Superb in Appointments



Power, or the lack of it, makes or mars an automobile.
Power gives satisfaction, the lack of it, annoyance.
Canadian hills and highways are easily negotiated on high gear with the reserve power of the McLaughlin valve-in-head motor. This is due to the Valve-in-head principle of the McLaughlin motor construction, which develops from 15 to 25% more power than motors of other type of the same bore and stroke.
In all the essential qualities of a good motor car—body construction, mechanical efficiency and appointments—the McLaughlin is equal to the best. In power it stands alone.
The New Series McLaughlin cars include 4 and 6 cylinder models in Touring, Roadster and Sedan types, at prices ranging from $895 to $2350; a new 60 H. P. 6 cylinder 7 passenger McLaughlin at $1900.
Send for our new catalogue "B" describing our complete line to

THE McLAUGHLIN MOTOR CAR CO., LIMITED
OSHAWA, ONTARIO

See the 1917 McLaughlin Models at the nearest show rooms.
Branches in leading cities. Dealers Everywhere.

Canada's Standard Car

London Cement Drain Tile Machine

Makes all sizes from 3 to 18 inches. Price with one size $250.00. Cement Drain Tile are here to stay. Large profits in the business. If interested send for catalog No. 2.

LONDDN CONCRETE MACHINERY CO.,
Dept. E, London, Ontario.
World's Largest Manufacturers of Concrete Machinery

FREDERICTON-MADE IRONWARE WEARS

IRON CASTINGS and FORGINGS

Pig Troughs, Oat Boxes, Griddles, Pots, Stoves, Frying Pans, Sled-Bench Castings, Wagon Boxes and Nuts, Bean Jars, Aquaduct Rings, Cow-Tail Holders, Ashpit Doors, Sash Weights, Furnaces, etc., etc., etc.

THE SMITH FOUNDRY CO., Ltd., Fredericton, N. B.

Resolved, that we, the students in attendance at the Apple Packing School now being held by the New Brunswick Department of Agriculture, do hereby express our appreciation of the services of Messrs. P. J. Carey and George H. Vroom, of the Fruit Commissioner's Branch, and Messrs. George E. Sanders and A. G. Duston, of the Dominion Entomological Division, and forthwith tender our thanks to these gentlemen, and the chiefs of their division.

Resolved, that we, the students in attendance at the Apple Packing School now being held by the Provincial Department of Agriculture, do hereby express our appreciation of the opportunity thus acorded to gain valuable and needed information re the spraying, packing and marketing of our apples, and that we commend the action of the Department in organizing and holding such a school, and also our appreciation of the energy and ability of the Provincial Horticulturist as displayed in the great advance which has been made in the fruit industry of the province in recent years.

Leading Fruit Province

Geo. H. Vroom, Chief Fruit Inspector for the Maritime Provinces, said that years ago he had been ridiculed for stating in other provinces that he believed the time would come when New Brunswick would be one of the leading fruit growing provinces of the Dominion—but those same people now had to admit that his prediction would surely be realized. He had always had great faith in our apple producing possibilities, and had been very glad to do anything he had done to help the industry along in New Brunswick.

P. J. Carey, Chief Packing Expert of the Federal Fruit Division, said that although he had held apple packing schools in British Columbia, Ontario and Nova Scotia, this was the best school he had ever had charge of, the attendance was the largest and the interest and eagerness for information was very satisfactory indeed. He thought that New Brunswick was fortunate in getting a proper start and mastering the packing part of the business before the produce to be handled was very large, because in the other provinces they had done the opposite—got the large crops first and only lately had learnt to pack rightly, and so in that way they had had a tremendous obstacle to overcome, but New Brunswick was profiting by the lesson and avoiding that big mistake.

Mr. Geo. E. Sanders, of the Dominion Entomological Division, referred to some of the experimental work for the control of insect and fungus enemies of the apple which they had done in Nova Scotia, and to the fact that he was going to take up similar work in New Brunswick this present year. He invited the co-operation of the growers in successfully working out the spraying problems in New Brunswick orchards.

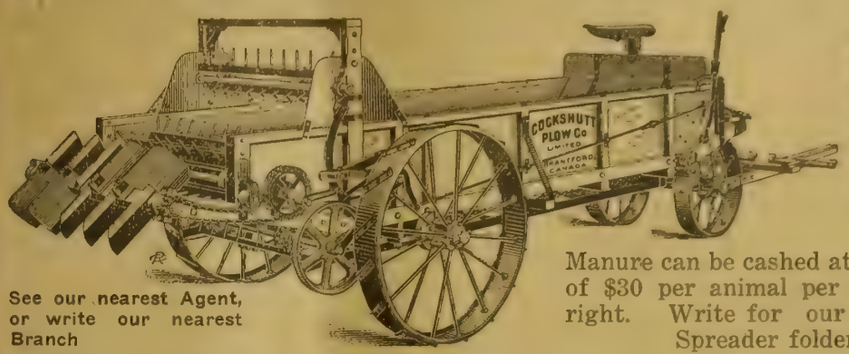
Mr. W. W. Hubbard then invited any of those attending the course, who cared to do so, to come down in the morning to the Experimental Station and he would only be too glad to show them the barns, equipment and livestock, and make their visit as interesting and profitable as possible.

The most successful meeting ever held by the fruit growers of the province was then closed by singing the National Anthem.

Cockshutt Manure Spreader

—HEAD AND SHOULDERS OVER THE COMMON RUN—THIS SPLENDID MACHINE PUTS MONEY IN YOUR POCKET EVERY DAY IT'S USED—IN SAVED LABOR, IN BETTER DISTRIBUTION AND IN BIGGER, STRONGER CROPS

The Cockshutt ideals—simplicity, light-draft and super-efficiency are fully worked out in this Spreader. "Spreader"—that's the word—not a mere "dumper!" Our idea of a Manure Spreader is one that thoroughly carpets the roughest field and leaves man and horses unwearied at the day's end. And we've got it. The revolving spike-studded delivery cylinders are fine but we go further—a special Distributing Paddle pulverizes and DISTRIBUTES the manure in a very thorough way. Strong, direct chain drive—no bothersome gears or clutches; the driving and conveyor chains are extra heavy and strong, for years of hardest service; easily-oiled bearings and big wide-tired wheels make light draft; the box is specially low for easy loading.



When not spreading, the machinery is not running—a handy lever does the trick. Flow of manure can be changed in a second, and it's absolutely independent on hillsides, ruts, etc.

See our nearest Agent, or write our nearest Branch

Manure can be cashed at the rate, at least, of $30 per animal per year, if it's used right. Write for our newest Manure Spreader folder at once

THE FROST & WOOD CO., LIMITED,

Truro ST. JOHN, N. B. Charlottetown

Pull Stumps The Easy, Practical Way

CLEAR your land by the KIRSTIN Method, the quick, easy, sensible, economical way—the way that has proven practical under all conditions. One man handles and operates the KIRSTIN One-Man Puller—no horses required. The improved Double Leverage KIRSTIN—the new short lever Model stands the extreme test of the very hardest stump-pulling. The KIRSTIN wonderful compound leverage principle makes any man master of tough stumps anywhere. In addition to its practically unlimited power, the KIRSTIN changes speed while pulling a stump. No other Stump Puller at any price contains a similar device—no need to plug along at the same speed after the stump begins to come.

When the hard pulling is over and the stump begins to come, shift to high-speed and hasten the pulling. Clears over an acre from one anchor—no time lost in resetting the machine, just a steady, easy back and forth movement of the lever pulls out stump quick and easy. Pulls small trees, hedges and brush in bunches.

Kirstin
Stump Pullers
Made in Canada

The KIRSTIN gives unlimited power. The low price puts the KIRSTIN within reach of all. Ten day try-out on your farm — Special Profit-Sharing Offer to the first buyers in each neighbourhood.

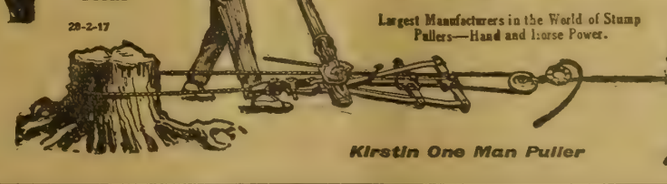
Write To-day for Our New Book, "The Gold in Your Stump Land"—don't clear a foot of land untill you get this valuable book.

$42.75 and up.

10 Days Trial

28-2-17

A. J. KIRSTIN CANADIAN COMPANY
6028 Dennis Street
Sault Ste. Marie, Ontario.
Largest Manufacturers in the World of Stump Pullers—Hand and Horse Power.



Kirstin One Man Puller

Get this FREE BOOK

Clears Land from 1/3 to 50% Cheaper than any other method

A 21,000-POUND AYRSHIRE

It will be welcome news to Ayrshire men that a new record has been made in the Canadian Ayrshire world, by the cow "Grandview Rose"—37030—owned by Shannon Bros., Cloverdale, B.C., that finished her test January 31st last, with 21,423 lbs. milk and 900 lbs. fat, and is due to freshen early in April, this is equal to 1,050 lbs. of butter. Her age at commencement of test was five years and twenty-two days.

This cow was bred by the Messrs. Shannon Bros., her sire being Springhill Live Wire—27778—by Lessnessock Durward Lely (imp.)—24758—(6746). Her dam was Auchenbrain May (imp.)—27779—by Auchenbrain Crusader (6807). It will be seen that this cow's breeding is backed up by blood from the most productive strains in Scotland.

Grandview Rose is a large cow and true to Ayrshire type and form. The Messrs. Shannon Bros. are to be congratulated on being the first Canadian Ayrshire breeders to breed a cow to pass the 21,000 lb. mark in Record of Performance.

W. F. Stephen, Secretary, Canadian Ayrshire Breeders' Association.

LACKING HORSE SENSE

Very often one sees a horse standing shivering in the cold while its owner is sitting in the house or store beside a warm fire, never thinking about the comfort of the animal patiently waiting outside. A horse will give much better service if it is well cared for and the man who will allow his horse to stand long in the cold without covering or without being fed, should not expect very much from it. It is, no doubt, due more to thoughtlessness than from a real desire to be cruel that some men treat horses in this manner.

WAR LOAN

DOMINION OF CANADA

Issue of $150,000,000 5% Bonds Maturing 1st March, 1937

Payable at par at Ottawa, Halifax, St John, Charlottetown, Montreal, Toronto, Winnipeg, Regina, Calgary, Victoria, and at the Agency of the Bank of Montreal, New York City.

INTEREST PAYABLE HALF-YEARLY, 1st MARCH, 1st SEPTEMBER.

PRINCIPAL AND INTEREST PAYABLE IN GOLD.

ISSUE PRICE 96.

A FULL HALF-YEAR'S INTEREST WILL BE PAID ON 1st SEPTEMBER, 1917.

THE PROCEEDS OF THE LOAN WILL BE USED FOR WAR PURPOSES ONLY.

THE MINISTER OF FINANCE offers herewith, on behalf of the Government, the above-named Bonds for Subscription at 96, payable as follows:—

10 per cent on application;
30 " 16th April, 1917;
30 " 15th May, 1917;
26 " 15th June, 1917.

The total allotment of bonds of this issue will be limited to one hundred and fifty million dollars, exclusive of the amount (if any) paid for by the surrender of bonds as the equivalent of cash under the terms of the War Loan prospectus of 22nd November, 1915.

The instalments may be paid in full on the 16th day of April, 1917, or on any instalment due date thereafter, under discount at the rate of four per cent per annum. All payments are to be made to a chartered bank for the credit of the Minister of Finance. Failure to pay any instalment when due will render previous payments liable to forfeiture and the allotment to cancellation.

Subscriptions, accompanied by a deposit of ten per cent of the amount subscribed, must be forwarded through the medium of a chartered bank. Any branch in Canada of any chartered bank will receive subscriptions and issue provisional receipts.

This loan is authorized under Act of the Parliament of Canada, and both principal and interest will be a charge upon the Consolidated Revenue Fund.

Forms of application may be obtained from any branch in Canada of any chartered bank and at the office of any Assistant Receiver General in Canada.

Subscriptions must be for even hundreds of dollars.

In case of partial allotments the surplus deposit will be applied towards payment of the amount due on the April instalment.

Scrip certificates, non-negotiable or payable to bearer in accordance with the choice of the applicant for registered or bearer bonds, will be issued, after allotment, in exchange for the provisional receipts.

When the scrip certificates have been paid in full and payment endorsed thereon by the bank receiving the money, they may be exchanged for bonds, when prepared, with coupons attached, payable to bearer or registered as to principal, or for fully registered bonds, when prepared, without coupons, in accordance with the application.

Delivery of scrip certificates and of bonds will be made through the chartered banks.

The issue will be exempt from taxes—including any income tax—imposed in pursuance of legislation enacted by the Parliament of Canada.

The bonds with coupons will be issued in denominations of $100, $500, $1,000. Fully registered bonds without coupons will be issued in denominations of $1,000, $5,000 or any authorized multiple of $5,000.

The bonds will be paid at maturity at par at the office of the Minister of Finance and Receiver General at Ottawa, or at the office of the Assistant Receiver General at Halifax, St. John, Charlottetown, Montreal, Toronto, Winnipeg, Regina, Calgary or Victoria, or at the Agency of the Bank of Montreal, New York City.

The interest on the fully registered bonds will be paid by cheque, which will be remitted by post. Interest on bonds with coupons will be paid on surrender of coupons. Both cheques and coupons, at the option of the holder, will be payable free of exchange at any branch in Canada of any chartered bank, or at the Agency of the Bank of Montreal, New York City.

Subject to the payment of twenty-five cents for each new bond issued, holders of fully registered bonds without coupons will have the right to convert into bonds of the denomination of $1,000 with coupons, and holders of bonds with coupons will have the right to convert into fully registered bonds of authorized denominations without coupons at any time on application to the Minister of Finance.

The books of the loan will be kept at the Department of Finance, Ottawa.

Application will be made in due course for the listing of the issue on the Montreal and Toronto Stock Exchanges.

Recognized bond and stock brokers having offices and carrying on business in Canada will be allowed a commission of three-eighths of one per cent on allotments made in respect of applications bearing their stamp, provided, however, that no commission will be allowed in respect of the amount of any allotment paid for by the surrender of bonds issued under the War Loan prospectus of 22nd November, 1915, or in respect of the amount of any allotment paid for by surrender of five per cent debenture stock maturing 1st October, 1919. No commission will be allowed in respect of applications on forms which have not been printed by the King's Printer.

SUBSCRIPTION LISTS WILL CLOSE ON OR BEFORE THE 23rd OF MARCH, 1917.

DEPARTMENT OF FINANCE, OTTAWA, March 12th, 1917.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, APRIL 10, 1917. Number 13.

The Preparation of Land and Cultural Methods For Potatoes.

By W. W. Hubbard, Supt. Experimental Station Fredericton, N. B.

There is perhaps no crop which has a wider range of growth than the common Irish potato, nor one which can be grown under more diverse methods of cultivation.

The potato plant, a native of Central and South America, where it is yet found in its wild and apparently useless state, was first taken to Britain in the reign of Queen Elizabeth, whence it has spread in its improved form over the whole civilized world and become an even more universal food plant than either wheat or rice.

So many and varied are the systems of its cultivation that it is unwise to take up time to describe them. It may be grown from the seed balls, and if the season of growth is sufficiently extended, large edible tubers may be obtained from the planting of these true seeds. The planting of potato seed as we ordinarily use the term, is not seeding at all in a botanical sense, but rather budding or grafting, as the tuber is really not a seed but a portion of the plant endowed with perpetuative powers from the growth of the eyes or buds which occur on these tubers. The new plant resulting therefrom is but a continuation of the original plant in much the same way as the strawberry plant throws our runners which take root and form new plants with the same qualities as the original plant. When this is understood we can realize that the growth of potatoes may take place under conditions quite different from those under which a true seed requires.

A certain amount of warmth, moisture and darkness seem to be the main essentials to the reproduction of tubers, thus considerable quantities may be produced without a seed bed as we understand one at all, the plant seeming to gather the elements necessary for a certain amount of tuber growth, first from the stored up food in the original tuber and then from the air and the decay of the covering material. If a large crop is expected, however, it seems essential for the roots of the potato plant to drink its nourishment through its roots from the food solvent in the soil.

No doubt some growers present have seen the potato beds which used to be quite common along the sea shores, where potatoes are planted on top of the ground covered with seaweed, sometimes with a little soil thrown over this and sometimes without soil. The same results can be obtained by covering potatoes with straw, and I have seen excellent crops taken up in the fall with the use of straw and without any cultivation whatever. I have also seen large crops of potatoes grown by making deep drills in dry ground in August and September and after tramping these drills full of straw and wild hay, splitting the ridges with a double mould board plough, allowing the ground to remain in this condition until the following spring, and then simply planting the potatoes by making a hole down into the straw or hay with a stick, dropping in the seed and filling the hole above the seed with the planters foot. Down on the Magaguadavic River in York County, I have seen crops grown continuously by this method without, I was informed, the addition of any fertilizer whatever, and if my information was correct, a yield of one hundred barrels to the acre could be depended upon. The crop I saw myself appeared to be good enough to give this yield.

To come down, however, to the business proposition of growing paying crops of potatoes in New Brunswick, and to keep down this article to a reasonable length, I will not discuss the effects of climate and character of soils on the quantity and quality of crops, except to endorse what is generally understood that we have in this Province, a climate and soils that enable us to grow large crops of tubers of the best edible quality, and with very strong vitality for reproduction purposes. Sufficient moisture, moderate warmth without extreme heat and friable sharp soils seem to be important factors. We have some soils that do not produce the best potatoes, such as heavy looms full of dark vegetable matter, some swamp mud and our rich and low lying alluvial soils. Sandy and gravelly loams and clay loams with friability are most favorable.

Good soil drainage is the first essential in cultivation, then freedom from weeds and lastly the preservation of a good earth mulch during the whole season of growth. This mulch conserves moisture during drought and also prevents too much heat from penetrating the soil.

Opinion is somewhat divided as to whether fall ploughing prepares land better for potatoes than spring ploughing. Probably much depends upon the mechanical condition of the soil. Some very successful growers used to plant potatoes on sod or rather under sod, by dropping the sets in every third furrow and then ploughing them in to a depth of from four to six inches, following level cultivation till the plants were quite large and then hilling only very slightly.

With an old tough sod theoretically, the best results should be obtained by ploughing in July or early August and harrowing it frequently to ensure the decay of the sod before frost, while with a freshly seeded clover sod, best results might be expected by allowing the clover to make a good growth in the spring before turning it under.

Where the three year rotation of potatoes, then grain, seeded to clover and the clover sod always turned under for potatoes is followed, the Specialist in potato growing can usually get the best results, and it will be found that after the clover crop is repeatedly used, less and less fertilizer will be required to produce full crops of potatoes. Clover not only gathers much nitrogen from the air and stores it in its own root and stem structure, but it also opens up the subsoil with its roots making better drainages and drawing up through these roots lime and potash from the area below that reached by the plough.

After several years careful experimenting with the effect of clover upon the fertility of the soil, Dr. F. T. Shutt,, Dominion Chemist, reports that the clover crops including roots, &c., grown by him contained per acre:

Nitrogen from 100 to 150 pounds.

Phosphoric acid, 30 to 45 pounds.

Potash, 85 to 115 pounds.

This could be put into the soil by ploughing in the full crop. When a crop is taken off and a heavy second growth is ploughed in, the results would probably equal 75% of this, and if this 2nd crop was allowed to die down and a good growth came on in the spring, no doubt the results would be as good as the above figures.

Potash, 9 pounds.

Therefore the above clover crops were equal in fertilizing value to an application of ten tons of barnyard manure.

Dr. Shutt also conducted experiments in growing potatoes after sowing clover with grain.

After wheat with clover he got 320 bus. potatoes per acre.

After wheat without clover, 280 bus. potatoes per acre.

After oats with clover, 301 bus. potatoes per acre.

After oats without clover, 290 bus. potatoes per acre.

After barley with clover, 330 bus. potatoes per acre.

After barley without clover, 280 bus. potatoes per acre.

The next year a repetition of the experiment gave an average yield after grain with clover of 423 bushels per acre, after grain with clover 391 bushels.

Thus in addition to its value as an aid to the cultivation of the soil, it will be seen clover has great fertilizing powers. Before leaving this phase of the question of cultivation, reference should be made to the value of barnyard manure, for this material not only supplies easily available plant food, but also puts most soil in a better mechanical condition, and certainly in a better bacteriological condition.

Therefore apart altogether from its value as a fertilizer, barnyard manure is of distinct value in cultivation. For a potato crop preferably, barnyard manure should be applied the year previously. This may be done by top dressing on the clover crop, or a grain crop, or if, as is a more or less common practice, the potato crop follows an oat crop grown on sod, an excellent plan is to spread the manure on the stubble plough shallow and then cultivate thoroughly with a disc harrow and before freezing up, ridge the land with a double mould board plough or a machine made for the purpose, that will throw up three ridges at once. This saves the manure from leaching and the fine soil from washing as the fall, winter and spring precipitation will settle between the ridges and soak off into the subsoil, without passing through the soil in the ridges. The frost will also have a more thorough action on both the surface soil and the subsoil, the land will dry out more quickly and therefore warm up earlier in the spring, and when these ridges are harrowed down, will leave the soil in ideal condition for the potato crop or in fact any crop.

Planting

In commercial potato growing, hand planting is practically a thing of the past. Most horse planters will do the work, quickly, economically and well, and they have the added advantage of applying any commercial fertilizer used at the same time. The depth of planting may be regulated to suit the grower, though most growers usually set the planter to drop the seed not more than two inches below the surface of the ground. This means that after cultivation must provide for hilling up the potatoes. Whether or not potatoes should be planted deeper than two inches, depends largely on the soil and subsoil and the season. On very light, dry land, and in dry seasons, it would be reasonable to expect best results from deep planting. In the Ottawa Valley and many parts of Ontario, deep planting and level cultivation are largely followed, while in New Brunswick we nearly always plant on or near the surface, and hill the potatoes.

I have not by me any figures as to the relative merits of the two systems, except in regard to the work done at Fredericton the past season:—

(Continued on page 355)

Agriculture and Live Stock in New Brunswick.

By J. W. Mitchell

We are told that Lord Bacon, who lived about three hundred years ago, undertook the study of agriculture, and that, after reading all the books he could secure bearing upon the subject, he ordered his servant to collect and burn them, since none of them threw any light upon the science or underlying principles of agriculture.

True, we are still in the dark upon many points, but we have travelled a long way since then, and were Bacon with us now there are many good works on the various phases of agriculture which he would not order destroyed.

Some Principles.

Through patient study and research, different branches of science bearing upon agriculture have been evolved and developed and applied to our every-day practices, to such an extent that the agriculture of to-day may be truly said to be an applied science: and by the term "science" we do not mean anything mysterious, but simply exact knowledge arranged in some kind of system or order, so as to connect up cause and effect, or to explain the why of things, and enable us to make progress and do our work intelligently.

Let us give a few examples. Botany and other branches of science, backed by experience in practical agriculture, tell us what we find in plants, how plants grow, and how and where they secure their food,—whether, like grain crops, they draw heavily upon the soil for their food, like corn, they feed heavily upon material supplied them by the air, or, like clovers, they are actual soil builders,—and thus we are enabled to rotate our crops intelligently.

Without the aid of chemistry many of our problems would remain unsolved. For example, it enables us to ascertain the value of manures, solid and liquid, to make up and determine the value of commercial fertilizers, to correct defects in soil, etc. Again, a study of the composition of foods, of their digestible nutriments and of the requirements of the different kinds of animals kept on the farm, both enables us to feed economically and gives us a clue as to the classes of foods to grow.

Bacterioligy has thrown a flood of light upon and greatly helped in the development of modern agriculture. It has taught us that bacteria manufacture plant food from materials too simple for the plant to use direct; that the clovers, aided by bacteria, utilize the nitrogen of the air and build up nitrogen compounds; that many of the important changes that take place in the soil are due to the action of bacteria; that barnyard manure serves a triple purpose, in that it supplies plant food and humus and useful bacteria; and, above all, it has shown that bacteria and allied simple forms of life are Nature's great scavengers, that is, their great function is to decompose dead organic matter,—dead plants, the excrement of animals, sod that is ploughed down, etc., and turn it into earth to again be used as plant food.

Thus there is a cycle in Nature. The plant builds up its material from the air and the soil; the animal builds its material from the plant; then bacteria decompose dead organic matter,—animal and plant,—and convert it into plant food again.

In order to farm successfully the cycle must be completed, that is, we must rotate our crops and keep stock.

Mixed Farming.

Our land will produce in proportion to its state of fertility and no form of farming can be called complete unless it makes provision for keeping the soil in a high state of fertility, that is, unless it enables us to complete the cycle.

In his work, "Wealth of Nations," Adam Smith truly says,

"The increase of stock and the improvement of the land are two events that must go hand in hand, and of which the one can nowhere much outrun the other."

Keeping stock enables us to return to the soil, in the form of solid and liquid manure, much of what was taken from it by the crops grown. Again, the keeping of stock enables us to rotate our crops as a further means of maintaining soil fertility; yea, it forces us into the adoption of such a form of crop rotation as is best for the soil, if we are to feed our stock economically and to the best advantage.

A country that has the conditions for the production of animals and animal products successfully, can count itself blessed. Such is New Brunswick.

(1) It is well watered.

(2) It has the soil and the climate for the growing of summer and winter foods in abundance.

(3) It is favorably situated as to markets, both home and export.

A number of years ago, when the possibilities in agriculture were not nearly what they are to-day, one of the greatest English experts was asked to investigate and report upon the possibilities of New Brunswick along agricultural lines. In his report he tells us that the province has about 18,000,000 acres of land, of which 13,000,000 acres are arable; that it is capable of keeping 450,000 horses, or about seven times the number now kept; 1,800,000 cattle, or above seven times the present number; and 3,750,000 sheep and swine, or about sixteen times the number at present in the province; and that under this higher form of farming it is capable of caring for a population of over four million people, which is about twelve times our present population, or considerably more than half the present population of all Canada.

Of course it is not likely that we would care to denude our forest area to the extent indicated, or be justified in doing so, but, were we to even double or treble the number of live-stock kept and improve their quality, what a boon it would be to the province.

Let me ask this pertinent question: To what class of farmer are the banks most ready to loan money, and why? Is it not the farmer who keeps live-stock and is it not because this is the highest, safest, most profitable form of farming, when taken over a period of years?

New Brunswick is naturally a stock country and it is largely in mixed farming and the keeping of stock that our great possibilities in agriculture lie.

Our Live-Stock Industry.

Now I would turn and deal directly, though of necessity briefly, with some phases of the live-stock industry. Some things said will deal with farm and community practice, while others will have to do with the cooperation of the Department of Agriculture with the farmers in their work. Wherever my remarks imply the adoption of a policy, you will understand that they are only suggestive and for your consideration.

When going into the keeping of live-stock, we should carefully consider the kinds and breeds of stock to keep, from both the productive standpoint and that of markets. Fortunately, in this province we can, from both standpoints, keep a variety of stock,—horses, cattle, sheep and swine.

While we should aim to keep the breeds of stock most suitable to our conditions, this does not mean the keeping of stock that will withstand the most hardship, but rather those that will give the best returns under right conditions as to care and feeding. All of our domestic animals are artificial and specialized and call for good care and feeding, and, if well selected and cared for, will give large returns, but only if given such conditions.

A basic principle in connection with live-stock and dairying is to know the requirement of the animals kept and to satisfy these fully and, at the same time, as economically as possible. Most of what we feed should be produced on the farm; hence our animal and field husbandry should be made to dove-tail into each other. Under present conditions, for example, the expensive grain portion of the rations fed our dairy cows for winter milk production is purchased in the form of by-products of the mill and some of our dairymen might almost as well be living in town. This can and should be greatly remedied. I shall deal with this point in one of my lectures during the course.

We should, I believe, adopt community breeding for both pure-bred and grade stock, in as large a measure as possible, always using, of course, a pure-bred male of outstanding merit. An Agricultural Society should not be bonused on more than two breeds of cattle. The advantages of community breeding are obvious and need not be dwelt upon.

Sliding Scale in Bonusing

Before the purchase of a pure-bred bull is made by an Agricultural Society, a representative of the Department of Agriculture should meet the Society and ascertain whether the aim is to go into beef or dairying. If the latter, a good sire from one of the dairy breeds should be purchased and one breed, if possible, should be adhered to.

The bonus, I am strongly persuaded, should be on a sliding scale, depending upon the individual merits of the animal and the extent to which he is backed by records of performance. This might be discussed during the course.

Dairying

To make any headway in dairying, we must study how to produce the raw material economically. Cow testing, selection, weeding, breeding, the growing of suitable summer and winter foods and proper care are factors that must all be carefully considered.

As to the handling of the milk and cream, a portion of this will naturally find its way to the towns and cities to be consumed as such or made into ice-cream. Outside of this, I am strongly in favor of cooperative or factory dairying, which means less drudgery on the farm, proper equipment, skilled labor, a reduction in the cost of manufacturing, a large quantity of product of uniform and superior quality, better marketing facilities and better prices, all of which spells greater profit. In some cases, particularly in isolated districts, the cheese factory will prove most suitable; but too small an output means a poorly equipped, poorly manned factory, a high manufacturing cost and the possibility of an inferior product. Where practicable, I am in favor of the establishment of a central cream-gathering creamery at a good railway point. Such will serve a large territory and its advantages readily suggest themselves.

As to what the policy of the Department will be in the way of bonusing factories, I am not prepared to say. Its attitude will, undoubtedly, be sympathetic and there will be a desire to help.

Swine.

The swine industry is one that is in great need of development.

Just a few years ago the value of the annual importation of pork products into St. John from outside the province was over $500,000. What it is at present I am not prepared to say.

I believe we should have access to a good abattoir at a central point, to which our hogs could be shipped on foot.

Sheep.

Those who attended the annual convention of the Farmers' and Dairymen's Association in Fredericton, a little over a month ago, will remember that the development of the sheep industry was a live subject. While its possibilities are admittedly great, it is just in its infancy and should be carefully fostered. The dog menace has been blamed as one of the chief obstacles to its development and at the convention referred to this was fully dealt with in discussion and by resolution. It is to be hoped that this is not the last to be heard of this resolution.

It is my intention to secure, through the assistance of the Agricultural Societies, lists of ewe lambs for sale, and to furnish these to parties desirous of purchasing such lambs. If many of these could be sold for breeding purposes, instead of going to market to be slaughtered, it should help to develop the sheep industry.

Also, I hope to secure a fairly complete list of pure-bred stock in the province for sale and furnish information to intending purchasers.

There are now two Wool Growers' Associations in the province and I hope, through cooperation with the Diminion Live-stock Branch, to get others established.

While I have limited my remarks to mixed farming, in the usual sense of the term, with particular reference to the live-stock end of it, I would, before concluding, take the opportunity to widen the application of the term "mixed farming" to meet our conditions. New Brunswick has gone far enough to prove its great possibilities in the production of fruit, particularly apples, and the growing of potatoes, and these are phases of our activities that should receive every encouragement. Again, although I have strong faith in crop rotation and the keeping of stock as the two great means for the maintenance of soil fertility, yet I am not disposed to in any way disparage the judicious use of commercial fertilizers, where such is warranted.

If we balance our farming so as to include crop rotation and obtain larger yields per acre, and secure an increase in and the improvement of our live-stock, the adoption of such specialties as fruit and potato growing, the proper preparation of our products for the market and the marketing of our products under better conditions, there is a bright future in store for us.

If you would like to secure subscribers for us, we can offer you a paying proposition that will assist you to make good use of any spare time you can devote to the work.

Maintaning the Health of the Dairy Herd

By W. M. Lea, M.P.P.

Profit in dairying is generally discussed along the lines of breeding, feeding and weeding. How to breed and raise a dairy herd, feed and care, etc., has been discussed and debated from all angles, but the keeping of a herd in "healthy working" condition is seldom touched upon. Now, I consider one of the hardest problems a dairyman faces is to keep his cows all in proper shape all the year.

I believe any good cow in healthy condition, that does well at calving, will give a profit over cost of feed of from 25 to 60 percent several months. We have learned that one pound of feed is worth as much to this end, before as after calving, in fact, some of the expert feeders claim one pound is worth as much as two pounds after freshening. The discouraging part of dairying and the one that is largely instrumental in curtailing profit, is to have one of the many troubles to happen at calving time, and to see the cow lose the flesh that has cost us so much to put on.

Prevention is better than cure, very many times better, and it is along this line that I endeavour to treat my herd. We should all learn to be observing and notice every time we pass an animal if she is normal in every respect. Living a long distance from veterinarian assistance, I have been forced to treat my own stock to a great extent, and have endeavored to get all the information possible from successful herdsmen and dairyman whom I am privileged to meet from time to time.

We cannot help making mistakes, but we should endeavour not to commit a similar error the second time. I will touch briefly on some of the most common ailments met with in a dairy herd, and my own method of prevention and treatment of same. I will begin with the heifer or cow at or approaching calving.

The most common trouble met with at this time is retention of the afterbirth, mal presentation of the fetus, (or a wrong presentation of the calf at birth), milk fever, garget and inflamation of the udder.

It is always well if possible, to be with a heifer at first calving, and if the season is cold and the stock is in the stable, we leave the cow in her stall during the birth of the calf, as the stable is usually warmer than a box stall and the cow cannot get in any awkward position, which will obstruct the free delivery of the calf. While it is sometimes necessary to render assistance to heifers, great injury is often done at this time by too early interference. Nature can do more to relieve the mother than we can, and time should be given to allow the bones to stretch, and the neck of the womb to open. It is wise to examine and learn if conditions are normal, but do not be to ready to pull the calf away. After several hours, if you find assistance necessary, apply gentle force. Pull only when the birth pains come on and directly towards the cows hind feet. A calf is delivered almost in a circle and a straight pull is hard on both offspring and dam. If, as sometimes happens, the calf is coming backwards, do not attempt to turn it, as it will come almost as well that way.

When the calf is born, or even before, blanket the cow warmly, and if you fear, for any reason, she may retain the afterbirth, apply hot salt over her back, keep her warm and give her drinks as hot as she will take them. Cold does more to prevent a cow cleaning than any cause I know. Excitement is also often responsible for it, but if the cow calves naturally and is kept warm and quiet, she will generally clean within a few hours.

"Milk Fever" that used to be the terror and dread of dairymen, is now easily, and generally successfully, treated by a system known as the oxygen treatment. A proper milk fever outfit consists of an air pump that forces air into the udder through cotton wool or other absorbent saturated with oxygen, but an ordinary bicycle pump can be made to answer this purpose almost as well, there being enough oxygen in the air to kill the germs causing the trouble. However, prevention is much better than the risk of any after treatment, and is generally all that is necessary. Heifers are never known to have this trouble, but heavy milking cows in high condition should be handled carefully. It is generally considered that milking out a full udder shortly after calving is the chief cause of this sickness. Under natural conditions at calving, where a cow is fevered and sick, the calf only takes a little milk and the cow is not called upon to renew any large quantity. We must also remember that the modern cow has been bred to give a much greater quantity of milk than nature intended necessary to support her offspring, and if we draw off a large pail full at this time, we stimulate her system to renew this great quantity, at a time when she should be resting. This overwork, that we often ignorantly force upon her, with the erroreour idea that we are relieving her, is what generally causes an attack of milk fever; however, cases have frequently been know where every precaution possible was taken, when any symptoms of paralysis develop, such as trouble in rising, a glassy appearance of the eye, or loss of control of the head, do not pour any medicine into her, for in a well developed case the throat may be paralysed and she cannot swallow. Many cows have been chocked by this treatment. Milk out the udder, and if a veterinary surgeon is not available, insert a teat tube to which attach a bicycle pump and pump each quarter up tight and hard, and in an hour or so, if she does not arise, repeat the treatment. This has revived cows that were so far gone that the eye would not blink when a finger was pressed into it.

But of all ailments to which a stable fed dairy cow is subject, "Indigestion" is the one most often met. In fact, I think probably, nine times out of ten, when we find a cow refusing feed or showing any symptoms of sickness, it can be traced to some form of indigestion. If the trouble is located in the first stomach or paunch, which is the one most often affected, the symptoms are easily detected. The animal will refuse food, will be bloated more or less (according to the severity of the case) and generally make a peculiar grunt in breathing. She will sometimes take spells of shivering and move stiff and slowly when walking. In other cases the bloating may be so slight as to be hardly noticeable and the animal shows no other symptoms than to refuse food and drink, and people are often led to think the trouble is some form of inflammation.

A dairyman should always keep a good supply of Epsom salts, raw linseed oil, spirits of turpentine and sweet spirits of Nitre on hand. When ever a cow is noticed to refuse feed or is indifferent about eating, even if no other symptoms appear, give one pound of Epsom salts. This will probably head off more serious trouble for you later. But when we meet a well developed case of indigestion, or impaction, to a large cow, give two pounds of salts and eight to ten tablespoonfuls of turpentine and the same of sweet nitre, if you have it on hand. Do all you can to warm the animal up. In fact, success largely

(Continued on page 376)

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APRIL 10, 1917.

DATES OF ISSUE.

April 10-24
May 8-29
June 12-26

Farm efficiency begins in the home.

* * *

Honesty is one of the first qualifications of a successful and prolonged business life.

* * *

Co-operation is the only method whereby large combines and organizations can be effectively dealt with.

* * *

A dog, to be of any use to his owner, must be about his owner's business. His value is exactly in proportion as he benefits the owner.

* * *

Raising livestock always produces more wealth in the country. It means greater investment, which in turn brings in greater revenue. When crops are grown and the products sold soil is impoverished and little revenue is received, whereas when these crops are fed to good animals they bring in a great deal more revenue and the soil is improved.

* * *

There is no royal road to success either on the farm or in any other walk of life. Every man is called upon to hew his own way through the almost impenetrable forest known as difficulty, to gather and destroy obstructive refuse while the sweat of labor drips from his weary brow.

The same quality and kind of fence that will keep a sheep-killing dog out of a sheep pasture will keep the same dog confined on his owner's premises. If you have a roving brute, try it.

* * *

The man who strives to secure a little larger income than his neighbor by using a first-class seed, by putting his seed bed in first-class condition, by using registered bulls instead of scrubs, by testing his cows and weeding out the poor ones and by different other things of that nature will easily double the income from his farm.

* * *

FARMING BACKWARDS

Live stock, especially pure bred, is a valuable asset to any farm. The efforts that so many farmers are making to introduce live stock on their farms is most commendable. There is no question as to the profits to be cleared from this branch of farming, provided the farmer sets about his business in a proper manner.

Cattle—dairy or beef—hogs, sheep and, in fact, all live stock, require an abundance of roughage and more or less concentrates for sustenance and growth. The fact that the greater part of the feed for the stock may be grown on the farm, fed and converted into beef, butter, pork, wool and other kindred products, then sold at finished product prices, makes the live stock industry of especial interest and profit to the farmer. If feed for the stock is not grown on the farm and has to be purchased, then a greater or less share of the profits that rightfully should go to the farmer is diverted to other pockets.

On a recent trip we noticed that many farmers in the newer live stock sections had purchased good, well-bred foundation stock of various farm animals. They bought the stock when there was practically nothing on hand, or in the barn to feed them—everything had to be purchased from the miller or feed dealer.

This is going at the proposition backwards, placing the cart before the horse. While there is no question that hogs and cattle are profitable. It does not take them long to eat the profits if there is not a well-filled farm granary and a bulging haymow to supply them. Every farmer can raise all the roughage, and practically all the concentrates needed for balanced rations if he has the will and spunk. Let him raise an abundance of these, then look to the stock.

It's always best to begin at the right end.

LEARN TO LIVE ON THE FARM

Some one has said that the farmer's family faces two problems—how to make a living on a farm, and how to live on a farm. Although many people would answer unhesitatingly that everyone knows how to live on a farm, while how to make a living is a very real problem, there is, after all, some doubt as to which is the greater problem.

Successful living in any place depends primarily upon the spiritual and mental attitude. One must be in sympathy with the natural environment in which he finds himself.

The family on the farm must have a feeling of permanency. They must believe that it is the best place for them to live, the ideal place for a home, the place where the children have the best opportunity to develop strong bodies, sound minds, and the characteristics that make for efficiency. They must be open minded and try to learn whatever they can that will improve farm conditions.

They must believe in wholesome recreation for themselves and every member of their household. They must realize that all the really worth while things of the city, such as household conveniences and labor saving devices, opportunities for education, for the enjoyment of music, art, or literature, and the companionship of others, are within their reach at some times and in some forms.

When they are convinced of these things and have learned "to love the wind and the rain, the growing things, the birds, and all the rest, the dawn, the early morning odors, and to find each part of the day, each twilight, and each nightfall filled with wonders," they will know how to live on a farm, and how to make a living on a farm will be less of a problem.

SHEEP-KILLING DOGS COST HIM $1,400.

"Keep up the fight against dogs. They destroyed $1,400 worth of sheep one year for me. I have followed them home, and pulled the wool out of their teeth, and their owner would tell me that his dogs were always tied up. Such men think more of a cur dog than they do of their wives or children. Our flock of breeding ewes made us an average in wool and lambs last year of $23.18 per head, but I can keep only a small flock near the house."

Thus writes S. Swartz of Ohio, in the February 1st issue of The Breeders' Gazette.

New Brunswick and Nova Scotia evidently are not the only places in which the cur dog does damage to sheep flocks. There is no time like the present to get after the dog nuisance. How can you do your share in the fight? You can do your share by writing a letter to your local representatives asking them to support the movement to tax dogs and compensate sheep owners for damages, when the farmer committees bring the matter to the attention of the legislature.

A WORD TO THE DAIRYMEN OF SUSSEX

Time and again the milk dealers of St. John have tried to pull the wool over the eyes of the dairymen who ship their milk to the city. They everlastingly dictate to the farmers the price they are to ask for milk. Promises made by dealers when it is difficult to get an adequate supply of milk and cream for the city trade, have been, in many instances treated as empty words. The attitude towards the farmers seems to be, so far as price is concerned, "hitherto shalt thou come, but no further," no matter what the price of feed and labor may be, or what prices may be ruling elsewhere for dairy products.

Recently, one of the big dairy companies in St. John closed its doors and the farmers of Kings county and elsewhere, who supplied the milk and cream for this concern, will have to await the decision of the courts for a small percentage of what is their due.

We know many farmers in the vicinity of Sussex who have been stung, some of them to the extent of from $200 to $400 each. The total amount due to farmers in the vicinity of Sussex from the company in question amounts to thousands of dollars.

Despite the fact that these farmers are a prosperous people, they can ill afford at this season, when feeds of all kinds are so abnormally high, to lose one dollar of the results of their labor.

What has happened so recently is only a repetition of what has happened before, and may happen again if our farmers do not get together and work together for a system that will give them ample protection against unscrupulous dealers.

The milk producers of New England have, after a long, hard struggle, succeeded in banding themselves together in such a way that they can now dictate instead of being dictated to, as was customary in the past.

(Continued on page 378)

THE PREPARATION OF LAND AND CULTURAL METHODS FOR POTATOES

(Continued from page 351)

	Bushels per acre. Merchantable	Small	Total.
1-20 acre Green Mountain, hilled	370	30	400
1-20 acre Green Mountain, level, machine planted	350	50	400
1-20 acre Green Mountain, hand planted	395	47.5	442.5
1-12 acre Green Mountain, hilled	360	45	405
Average of hilled plots	365	37.5	402.5
Average of level plots	372.5	48.7	421.2

I think it is to be assumed, however, that from the almost universal plan of hilling in vogue in this Province, that we here find it the best and easiest. Our larger rainfall, moist condition of soil and subsoil, and the practice of machine digging, all favour the system we follow, and while the figures above quoted show that the deep planting gave a slightly better yield under last years dry and warm conditions, I would not argue from this one test that the deep planting and level cultivation was the best system to follow.

The best distance apart to plant is a much debated question. A large amount of experience has led to the adoption by many good growers, or rows thirty inches apart and seed dropped twelve inches apart in the rows, as likely to give the largest yield per acre of medium sized choice table potatoes. Here again I can only give you the figures of one year's trial.

Amount of seed used, general average at different distances.

	Bush. per acre.
2½' x 12"	13.5
2½' x 14"	13
3' x 12"	11.1
3' x 14"	10.6

Total yield, general average at different distances.

2½' x 12"	397.5
2½' x 14"	355.5
3' x 12"	330.9
3' x 14"	338.6

Bushels of merchantable potatoes, general average at different distances.

2½' x 12"	311.7
2½' x 14"	322.2
3' x 12"	310.1
3' x 14"	321.6

Seven cultivations or once a week is none too much, plant food especially potash, is made available and the ground left in best condition for the digger.

Date of planting.—Late plantings have usually seemed to be most profitable, not only in larger yields of sounder potatoes, but also because less after cultivating and spraying was required. Our experience last season was however the reverse of this, on one field the crop planted May 15th yielding nearly 40% more than that planted on June 19th. In another field the crop planted on the 21, 22, 23 June gave us our largest yield.

I append herewith the cost of growing potatoes per acre as we have found it on one measured acre in 1915 and 1916.

Record for 1915 for one acre planted to Green Mountains, Irish Cobbler and Empire State

Seed 21 bushels @ 60c per bushel	$12.60
Cutting seed @ 10c per bushel.	2.10
Ploughing land twice @ 32c per hour	3.20
Harrowing twice @ 32c per hour	.64
Discing in manure	1.28
Barnyard manure, 16 tons @ $1.00	16.00
Applying manure, team and 3 men, 4 hours @ 68c	2.72
Fertilizer applied with potato planter—400 pounds	6.37
Planting 3 hours team, man and boy	1.41
Cultivating 5 times, 7½ hours @ 25c per hour	1.87
Horse hoeing (hilling) 3 times, 4½ hours @ 32c per hour	1.44
Hand hoeing, partially, 15 hours @ 18c	2.70
Weeding, partially, 2 hours @ 18c	.36
Spraying with Bordeaux, 6 times @ $1.25	7.50
Digging, man and team 4 hours.	1.28
Picking, 5 men, 5 hours each @ 18c	4.50
Hauling to cellar, man and team 3 hours	.96
Harrowing for recovery of additional potatoes	.64
Picking up and hauling off 6 barrels potatoes recovered.	1.00
	$67.93

Yield:

80 bbls. (165 lbs. each) marketable @ $1.75	$140.00
7 bbls. culls @ 50c	3.50
	$143.50
Profit (less land rent and depreciation)	$75.57

This land was rather wet naturally and during the very rainy weather of June and July was several times flooded, causing missed hills and inferior plants generally. This land was originally cleared many years ago, and after cutting hay for thirty years it was allowed to grow up to spruce, birch and alder. It was again cleared in 1913 and grew buckwheat in 1914.

Record for 1916 for one acre of Pure Green Mountains

Seed, 19½ bushels @ $1.00 per bushel	$19.50
Treating seed with Formalin solution	.50
Cutting seed @ 10c per bushel.	1.95
Ploughing land	1.60
Barnyard manure, 15 tons @ $1.00	15.00
Application of manure, team and 3 men, 4 hours	2.72
Ploughing in manure	1.60
Discing, 1½ hours @ 32c	.48
Harrowing twice, 2 hours @ 32c	.64
Planting, team and 2 men, 4½ hours @ 50c	2.25
Fertilizer, 450 pounds 4-10 mixture applied with planter	7.65
Cultivating, 5 times, 7½ hours @ 25c	1.38
Pulling weeds 4 hours @ 18c	.72
Horse hoeing (hilling) 5 times 7½ hours @ 32c	2.40
Digging, man and team 7 hours @ 32c	2.24
Picking 51½ hours @ 18c	9.18
Hauling to cellar 4 hours @ 32c.	1.28
Spraying 6 times @ $1.60	9.60
Harrowing and picking potatoes left by digger	1.64
	$82.33

High priced seed, higher priced fertilizer ingredients and very dear Copper Sulphate contributed to the increased cost over 1915.

Yield:—

120 barrels @ $2.25	$270.00
6 barrels @ 50c	3.00
	$273.00
Profit (less rent and depreciation)	$190.67

Market price when potatoes were dug was $2.25. Later they could have been sold @ $3.25 but are held for seed.

Address presented at the Annual Convention of the New Brunswick Potato Growers' Association, by W. W. Hubbard, Supt. Experimental Station, Fredericton, N. B.

SUSSEX SEED FAIR

The fourteenth annual seed fair under the auspices of the Sussex and Studholm Agricultural Society held on Tuesday was a great success.

The exhibition of seeds in quality and quantity was the best yet and augurs well for increased production.

The judging was done by Mr. S. J. Moore, Dominion Seed expert and the prize winners were as follows.

Prize winners at the Sussex Seed Fair

Wheat, White or Red Fife—7 entries—1st, W. H. Venning, Sussex, $5.00; 2nd, W. H. Venning, $1.50; 3rd, Frank Tamlyn, Newtown, $1.00; 4th, W. E. Wallace, Penobsquis, 0.50.

Wheat, any other variety—4 entries—1st, W. H. Venning, $5.00; 2nd, H. B. Parlee, Sussex, $1.50; 3rd, H. R. McMonagle, Sussex Corner, $1.00; 4th, J. Titus Barnes, Apohaqui, 0.50.

Barley, two or six-rowed—4 entries—1st, H. B. Parlee, $5.00; 2nd, W. H. Venning, $1.50; 3rd, J. Hayes King, Smiths Creek, $1.00; 4th, J. Titus Barnes, 0.50.

Oats, white, any variety, named—10 entries—1st, W. H. Venning, $5.50; 2nd. H. S. Secord & Sons, Penobsquis, $2.00; 3rd, W. H. Venning, $1.75; 4th, McIntyre Bros. Sussex Corner, $1.50; 5th, Leslie Walker, Lower Millstream, $1.25; 6th, W. E. Wallace, Penobsquis, $1.00; 7th, R. E. Floyd, Bloomfield Sta., $0.75; 8th, H. N. Flewelling, Sussex, $0.50.

Oats, Black, any variety—one entry—1st, H. B. Parlee, $5.50.

Buckwheat, Rough—7 entries—1st, H. B. Parlee, $5.00; 2nd, Leslie Walker, $2.00; 3rd, J. Frank Roach, Sussex, $1.00; 4th, W. H. Venning, $0.50.

Buckwheat. Smooth—2 entries—1st, H. B. Parlee, $5.00; 2nd, R. E. Floyd, $2.00.

Peas, Field, any variety—one entry—1st, W. H. Venning, $4.50.

Peas, Garden—4 entries—1st, R. E. Floyd, $0.75; 2nd, E. Roy Raymond, Bloomfield Sta., $0.50; 3rd, H. B. Parlee, $0.25.

Beans, white—one entry—1st, H. B. Parlee, $2.00.

Beans, colored—7 entries—1st, Mrs. H. R. McMonagle, Sussex Corner, $2.00; 2nd, E. Roy Raymond, $1.00; 3rd, R. E. Floyd, $0.50.

Corn, yellow, any field variety—2 entries—1st, McIntyre Bros., $1.00; 2nd, H. B. Parlee, $0.75.

Corn, sweet—one variety—1st, H. B. Parlee, $1.00.

Clover Seed, Common Red—one entry—1st, W. H. Venning, $3.00.

Clover Alsike—one entry—1st, W. H. Venning, $3.00.

Grass Seed, Timothy—4 entries—1st, McIntyre Bros., $3.00; 2nd, W. H. Venning, $2.00; 3rd, H. S. Secord & Sons, $1.00.

Potatoes, Green Mt. or Delaware—6 entries—1st, H. B. Parlee, $1.50; 2nd, J. Hayes King, $1.00; 3rd, H. S. Secord & Sons, $0.75; 4th, Irvine Mosher, Sussex, $0.50.

Potatoes, any white long variety—3 entries—1st, H. B. Parlee, $1.50; 2nd, McIntyre Bros., $1.00; 3rd, O. A. Wetmore, Bloomfield Sta., $0.75.

Potatoes, any rose variety—3 entries—1st, McIntyre Bros., $1.50; 2nd, H. B. Parlee, $1.00; 3rd, E. Roy Raymond, $0.75.

Potatoes, any round or short variety—4 entries—1st, H. B. Parlee, $1.50; 2nd, Irvine Mosher, $1.00; 3rd, McIntyre Bros., $0.75; 4th, W. E. Wallace, $0.50.

Potatoes, any red variety—2 entries—1st, H. B. Parlee, $1.50; 2nd, McIntyre Bros., $1.00.

Potatoes, any dark variety—4 entries—1st, H. B. Parlee, $1.50; 2nd, Irvine Mosher, $1.00; 3rd, H. S. Secord & Sons, $0.75; 4th, Kenneth Raymond, Bloomfield Sta., $0.50.

Six Turnips, any variety, for seed—2 entries—1st, H. S. Secord & Sons, $2.00; 2nd, R. E. McAuley, Sussex, $1.50; 3rd, W. E. Wallace, $1.00; 4th, McIntyre Bros., $0.50.

Oats from Standing Crosp Competition of 1916—7 entries—1st, H. S. Secord & Sons, $3.00; 2nd, H. B. Parlee, $2.50; r3d, W. E. Wallace, $2.00; 4th, R. E. Floyd, $1.50; 5th, H. N. Flewelling, $1.00.

Recapitulation of Individual Winnings

H. N. Flewelling	$ 1.50
Irvine Mosher	2.50
W. H. Venning	33.25
J. Titus Barnes	1.00
H. B. Parlee	37.00
R. E. Floyd	5.50
J. Hayes King	2.00
J. Frank Roach	1.00
Frank Tamlyn	1.00
W. E. Wallace	5.00
Mrs. H. R. McMonagle	3.00
Kenneth Raymond	.50
E. Roy Raymond	2.25
H. S. Secord & Sons	9.50
McIntyre Bros.	10.75
Leslie Walker	3.25
R. E. McAuley	1.50
O. A. Wetmore	.00
Total prizes paid	$121.25

The Auction Sale of First Prize Grain resulted as follows:—White Fife Wheat to Fred Whalen, Sussex, at $3.25 per bushel. Marquis Wheat to W. H. Venning, Sussex, at $5.25 per bushel; Barley, O. A. C. 21 to H. B. Parlee, Sussex at $3.00 per bushel. Oats, Regenerated Abundance, to Fred Whalen at $1.25 per bushel. Oats, Black, to H. B. Parlee at $5.50 per bushel. Buckwheat, Rough, to H. B. Parlee at $2.25 per bushel. Buckwheat, Smooth, to H. B. Parlee at $3.50 per bushel. Field Peas to J. T. Prescott at $2.25 per half bushel.

TREAT SEED POTATOES FOR SCAB

Prof. E. L. Kirkpatrick, New York

The per cent of scabby tubers in this season's crop will be reduced if seed potatoes are treated with formalin or corrosive sublimate before being cut to plant. The formalin treatment consists of soaking the tubers for two hours in a solution of formaldehyde and water at the rate of one pint to each 30 gallons of water. The other treatment uses two ounces of corrosive sublimate to each 15 gallons water. (Corrosive sublimate is very poisonous and should be used with care.) Tubers are given the same time in this liquid as in the formalin.

Either treatment may be given by placing the tubers in an old gummy sack and lowering them into a barrel or tub containing the liquid. Tubers may be spread out on the grass or barn floor to dry, after which they are ready to cut and plant. Any number of sacks of potatoes may be treated in either solution. Since formalin evaporates very rapidly the vessel containing it is kept covered to preserve the strength of the ilquid.

THE OLEO SUBMARINE

The latest effort of the oleo people to secure favorable legislation in the U. S. Congress has failed. They wanted the internal revenue law changed, whereby all oleo, colored and uncolored, would pay a flat rate of 2 cents a pound. This would mean reducing the 10-cent tax on oleo colored in imitation of butter, and raising the ¼-cent tax on uncolored oleo to the figure first named. Had such amendment become law it would have meant greatly increased sale of colored oleo, much of it reaching consumers in the guise of pure butter.

HORTICULTURE

STRAWBERRY GROWING FOR PROFIT

Address by Manning Ells to the Short Course Students, N. S. A. C., Truro.

Strawberry growing as a commercial venture is not being over done in the Maritime Provinces. No other fruit is so universally eaten in its season, and every little town supplies a fair sized market. Indeed, some of the low prices of the past came from neglecting the small towns and sending all the supplies to the three or four large markets. Growers did not realize that these large markets made the price quotations for the rest of the country and when they got an over supply, prices would rule low all over. There is a demand for all the berries now being produced in these Provinces at very profitable prices and the main selling problem is one of distribution. Supply the home market first, and ship to the larger markets only what cannot be disposed of in your own town.

In growing berries, no especial farming knowledge is required. Anyone who can have a garden or can grow good crops of turnips or potatoes will experience no trouble raising strawberries. They will grow on any good tillable land, but land not naturally well drained, or if it has a clay subsoil not tile drained should be avoided. Such land is apt to heave badly in the winter and cause winter killing of the plants. If you must plant on wet land, ridge the ground up with an inthrow disk harrow, going over the same place several times with the harrow, and plant on top of the ridge. This method is followed with great success by some of the berry growers of New Brunswick. Do not plant on ground that has been in sod some two or three years previously. The common June bug lays its eggs in grass land, especially in old pastures or hay land that has been down some time. The larva of this bug or the white grub as it is commonly called, lives on the grass roots for some three years before coming forth as the June bug, and is very fond of strawberry roots. This grub is seldom bothersome where a short rotation is practiced on the farm, nor is it found in light loams as often as on heavier land.

If the land has been in hoed crops such as turnips, corn or potatoes for two or three years, it is in the best possible condition for planting strawberries. It is taken for granted that barn yard manure has been used liberally on these preceeding crops and become well incorporated with the soil. It is not advisable to use strawy manure the same year plants are set if one is looking for best results. Prepare the land in the spring either by plowing or, if it was plowed the fall before, by deep disking. We follow the smoothing harrow with a planker, to break up any lumps and firm the ground for setting. Make a marker by placing three or four six inch boards, three feet long on edge the distance apart you desire your rows to be, rounding one end of the boards to resemble a sled runner. Run a line to mark the first row, and then by using the marker, pulling it up and down the field, the rows will all be absolutely the same distance apart and parallel with the first row. By being a little particular in this point of having the rows all the same distance apart, the labor of hand hoeing will be greatly lessened, as the cultivator can be set to run very close to the plants.

From three and a half to four feet between the rows is about right and from twelve to twenty inches in the row, depending on the variety. Plants put out early in the spring should be placed further apart than those planted later in the season, as they will make many more runners and a thicker row.

Do not take plants from an old bed, or the last plants formed in the summer in a new bed. Large plants of the previous seasons groweth with well developed roots and a large crown are best. In digging plants, we take up the whole row, throwing away the old mother plant and those that have rooted too late to develop properly. It has been proven on our Experimental Farms that the large plants give almost twice the crop of small alley plants taken from between the rows. Of course, the plants of some varieties are much smaller than others. The Warfield and Senator Dunlap are very small plants when set in the spring, but they make the biggest row of them all.

It does not make much difference how the plants are set, and if the root is exposed equally disastrous results will take place from drying out. Some use a hand dibble or trowl to make the holes for the plants, others use a shovel or spade, one man making the holes for two or three planters that follow. This past season I saw a splendid field where the rows were opened with a light plow, a boy dropped the plants the proper distance apart and a man followed holding the plant in position with one hand against the land side while he pressed the earth against the roots with the other; afterwards the operation was finished with the hoe. Cultivate between the rows as soon as convenient, after plants are set to conserve moisture, and also about the plants with the hand hoe, and continue this cultivation as it seems needed, right through the growing season. By stiring the ground early and often, all the weed seeds near the surface will be sprouted and killed. This is quite important, as it is a very hard and expensive job to kill weeds that sprout late in the season, after the runners have made a good growth.

The strawberry plant is a rank feeder and it is generally advisable to use some kind of commercial fertilizer along the row during the growing season. On fairly loamy or heavy land we use about half a ton of commercial ground bone to the acre; on lighter land, nitrate of soda and acid phosphate will give quicker results. One hundred and fifty pounds of nitrate mixed with three hundred and fifty pounds of acid is a good dressing for one acre, and if applied along the rows two or three weeks after setting the plants, will give them a wonderful start. Do not sow this mixture when the plants are wet, for it will burn the leaves. Some of the animal nitroginous fertilizerss, such as ground blood or dog-fish fertili er give splendid results in growing berries. In fact, no one need be discouraged from growing strawberries because of a lack of barnyard manure. By using a cover crop or one year clover sod to furnish the necessary humus, most profitable and satisfactory crops can be grown on commercial fertilizer alone.

At the ending of the growing season a shallow trench or furrow should be left between the rows, that water may not stand on the plants at any time during the winter and they become covered in ice. Plants will always die when frozen over with ice in the winter.

As soon as the ground is frozen hard in December, mulch the plants with straw, rushes or marsh hay. The latter is to be preferred if you have it, both on account of freedom from weeds and because plants always looks fresher and nicer in the spring when it is used. We put this mulch on as lightly as possible, for as long as the plants are shaded they will do all right. The mulch is merely a

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JOE BOOTHROYD.
Surrey Centre, B. C.
The Banwell-Hoxie Wire Fence Co., Ltd.
Hamilton, Ontario
Gentlemen: I have handled your fence four years and find it a good, strong and durable fence, and find that the galvanizing is first-class. In referring to this I have a fence that I put on four years ago across a gulley and the water is as high as the second wire and it is not rusted nor broken yet. I have a team of heavy horses that ran into the fence last summer and did not break or damage it in the least, and I am glad to say that in the four years I have handled your wire I have had no complaints about it.
Yours truly,
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DUPUY & FERGUSON MONTREAL

protection against alternate freezing and thawing during the winter and early spring. As soon as growth starts in the spring draw this mulch between the rows to keep the berries clean and the ground damp about the plants. Dirty, sandy berries are not fit to send to any market.

If one is picking a half acre or more of berries, a shed of some kind should be built to hold boxes, crates, etc., and where the fruit can be taken as fast as picked to be protected from the sun. Let one person have charge of placing the boxes in the crates, and see that these boxes are properly filled. Perhaps nothing causes so much dissatisfaction in the market as slack boxes. The trays that are provided with the crates have a cleat about a third of an inch thick that allows the box to be filled a little above the rim without damaging the fruit. Fill the boxes so these show red on the underside when taken out. Level the top of the box seeing that there are no slack places, so that when the box shakes down as it will, it will still look nice and full. Pack berries as soon as picked, they are hard then and will stand a little shaking. The boxes should fit the crate so that when the cover is nailed down, they will be held firm and tight. Loose boxes in a crate will not stand a railway journey and deliver the fruit in good condition. It is better to pick berries a little green than too ripe, but let it be only a little green. Berries are not too ripe as long as the hull is green, but berries with a brown dead hull will decay within a few hours of being picked, and should never be placed in a box that is sent to market.

When the picking season is finished we mow off the leaves and remove them together with the old mulch; the space between the rows is narrowed up with a light plow, and then harrowed, cross wise if possible, with a spike tooth harrow. A fertilizer of nitrate and acid in the same proportions as used when the plants are set will cause them to make a vigorous growth before autumn and usually a two thirds crop will result the next season with no further expense except the picking. Considering the labor expended this second crop is about as profitable as the first. With this system, after the second year the old bed should be broken up. In the best strawberry parts of New Brunswick four or five profitable crops are taken from the same bed, but here local conditions are such that labor is plentiful, and the beds are cleaned of weeds by hand each season.

The profit in growing berries as in all other farm crops will vary from year to year, but in my experience the balance has always been on the right side of the ledger. With the present price of farm labor, when it can be got, an acre of berries will cost a little less than one hundred dollars to picking them. Last season our berries cost us 5.3 cents a box F. O. B. shipping point, and the net profit an acre was one hundred and ninety-six dollars. This was with a small crop and almost any farmer could duplicate this return or do better.

There are hundreds of varieties of strawberries and more being introduced every season, but some of the old kinds that were popular twenty years ago, are still at the top of the heap. For an early berry that does well under all conditions we have never tested any that equaled the Senator Dumlap. For midseason, Warfield, Glen Mary, Arnout, Wm. Belt and Haverland are all good and in these provinces the most popular late berry is the Sample. In the Annapolis Valley, where the early market gives the most money, the Senator Dunlap is planted almost exclusively by com-

(Continued on page 377)

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Early Yellow Danvers Onion (black seed) .oz. 20c, ¼ lb. 60c, lb. $1.90, 5 lbs. $8.25.
Yellow Dutch Onion Setts (choice) .....lb. 35c, 5 lbs. $1.70
Shallot Multiplier Onions (for green onions) .lb. 30c, 5 lbs. $1.40
Chantenay Red Table Carrot. Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.00
XXX Cardinal Globe Beet... Pkt. 10c, oz. 20c, 4 oz. 50c, lb. $1.50
Prize Hard Head Cabbage (12 lbs.) .... Pkg. 5c, oz. 30c, 4 oz. 90c
Perfection Cucumber (for table or pickles) .Pkg. 5c, oz. 20c, 4 oz. 50c
XXX Pink Skin Tomato (continuous cropper) ...Pkg. 15c, oz. 60c
Rennie's Mammoth Squash (biggest that grows) ..Pkg. 25c
English High Grade Mushroom Spawn .Brick 50c, 5 bricks $1.65
XXX Solid Head Lettuce.....Pkg. 10c, oz. 25c, 4 oz. 75c
Kangaroo Swede Turnip (high quality) 4 oz. 20c, ½ lb. 35c, lb. 65c
Irish King Swede Turnip (table or cattle).....4 oz. 20c, ½ lb. 37c, lb. 70c, 5 lbs. $3.40.
Jumbo Sugar Beet (best for stock) .4 oz. 15c, ½ lb. 25c, lb. 45c
Culture leaflets for any of the above Free with orders.
Sweet Scented Nicotine (Tobacco Plant), mixed colors .Pkg. 5c
Early Cosmos, Crimson, Pink, White or Mixed Shades...Pkg. 10c
XXX Spencer Giant Sweet Peas, ...Pkg. 15c, oz. 35c, 4 ozs. $1.00
Summer Cypress, lovely summer hedge, ...Pkg. 5c, ¼ oz. 25c
XXX Climbing Nasturtium, all colors.....Pkg. 10c, oz. 20c
Branching Giant Asters, Pink, White, Crimson or Mixed .Pkg. 10c
Giant XXX Comet Asters, mixed, all colors.....Pkg. 10c
XXX Defiance Sweet Mignonette.....Pkg. 10c, ½ oz. 60c

"Pakro" Seedtape. "You plant it by the yard." 2 pkts. for 25c. Ask for descriptive list.
Rennie's Seed Annual Free to All. Delivery Free in Canada.
Order through your LOCAL DEALER or direct from

RENNIE'S SEEDS Wm. RENNIE Co., Limited 190 McGILL Street, MONTREAL
ALSO AT TORONTO, WINNIPEG VANCOUVER

STRAWBERRY PLANTS !

Strawberry Growing is NOT overdone in the Maritime Provinces. Every town is a good market, every grocery store sells Strawberries, everybody eats them. Berries are easy to grow and easy to sell, and the cash for the crop comes at a time when cash is a very scarce article on the farm. We grow as good plants as can be grown anywhere, we have the best varieties yet known to Strawberry growers, and our prices are no higher than last year at a time when all prices are up. Write for our Catalogue and Price List at once. Big or small make your plans early to start a patch of berries this season.

CYRUS & MANNING ELLS, - Port Williams, N. S.

STEELE, BRIGGS

PROVED THE BEST BY EVERY TEST

"CANADA'S GREATEST SEED HOUSE"

FOR SALE EVERYWHERE IN CANADA

SEEDS

DAIRYING.

THE MOST SENSATIONAL COW IN THE WORLD

The purebred Holstein-Friesian cow, Segis Fayne Johanna 114658, realized the long-cherished hopes of enthusiasts and electrified the dairy world when, under an official seven-day test ending January 8, she established a new world's record for butterfat production, producing in seven consecutive days 730.8 pounds of milk containing 50.68 pounds of butter. This remarkable animal has scored a brilliant triumph for the Black-and-White breed.

The pessimist had for years scoffed at the optimist's prophecy that some day a cow would surmount the 50-pound barrier, but with Segis Fayne Johanna's accomplishment what seemed the "almost incredible" has happened.

Segis Fayne Johanna is the property of Oliver Cabana, Jr., proprietor of Pine Grove Farms, Elma Center, N. Y., and was bred by A. A. Cortelyou, of Somerville, N. J., having been purchased by the present owner at a breeders' sale on January 5, 1913. She is eight years old, weighs now about 1450 pounds, and in color is four-fifths white. Her sire is King Fayne Segis 46767 and her dam is Vikina Johanna 64385.

The new seven-day butter champion, the sixteenth Holstein-Friesian cow to obtain a place in the 40-pound class, is the fifth world's champion to be developed at Pine Grove Farms, so a brief resume of the methods of feeding and care in operation at this noted establishment, particularly those employed in the test of Segis Fayne Johanna, is of extraordinary interest.

The test was made in a roomy, clean, white enameled stall, under the supervision of representatives of the New York State Agricultural College, at Ithaca, N. Y. She was milked every six hours. From the time she went dry to ten days before freshening the new champion received the customary rations used at Pine Grove Farms, consisting of 30 pounds grain, 40 pounds beets and 30 pounds of beet pulp soaked in molasses. She was then fed a test ration of 16 pounds, increasing gradually to 25 pounds, consisting of the following mixture:

200 pounds dried distillers' grain,
100 pounds bran,
100 pounds ground oats,
125 pounds gluten,
100 pounds cotton seed meal,
80 pounds oil meal,
15 pounds table salt,
10 pounds charcoal.

On the third day after freshening she was given 16 pounds of grain until the sixth day, when two pounds were added, which was systematically increased to 31 pounds. Two pounds of cotton seed meal was also provided and, with the following, made up the balance of the ration:

40 pounds ensilage,
100 pounds roots,
32 pounds beet pulp,
12 pounds hay.

Rock salt and plenty of water were accessible to her at all times.

The test began December 28, 1916, and the verification and observation tests began at 4.30 p. m. on January 2 and continued for 48 hours. During the period the following supervisors were in charge: Ray Huey, Spencerport, N. Y.; R. V. Callahan, Clyde, N. Y.; S. H. Waldo, Castile, N. Y.; C. F. Mason, Seneca Castle, N. Y.; and F. A. Linzy, Darian Center, N. Y.

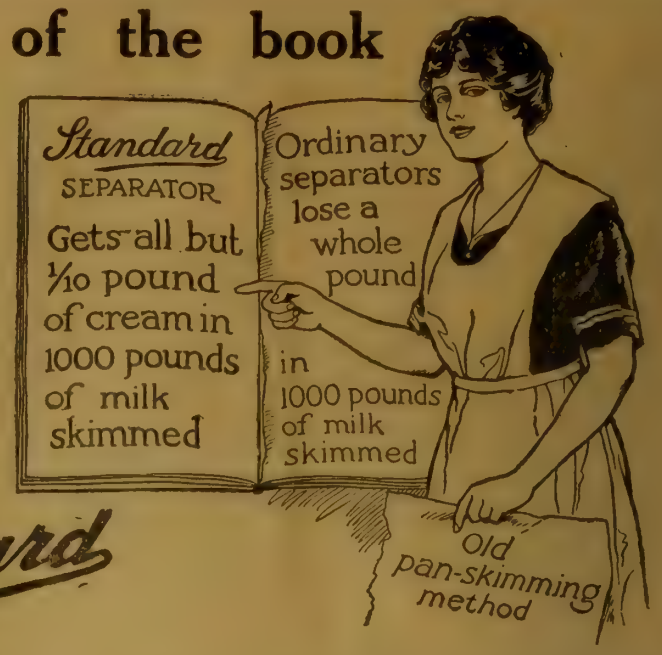
A study of the following certified table, giving in detail the milk and fat taken daily from December 28 to January 8, will prove of interest:

Date		Lbs. Milk	Lbs. Fat	Lbs. Butter
Dec.	28	97.9	5.667	7.083
	29	101.3	6.052	7.565
	30	104.1	5.466	6.832

The Purebred Holstein-Friesian cow, Segis Fayne Johanna 114658.

On which side of the book is YOUR Cream Separator?

ASK yourself this question, "Which will pay me better, (1) to buy an ordinary separator that costs, say, $55.00, and lose a whole pound of cream to every 1,000 pounds of milk skimmed, or (2) to invest in the


Standard
SEPARATOR
Gets all but 1/10 pound of cream in 1000 pounds of milk skimmed
Ordinary separators lose a whole pound in 1000 pounds of milk skimmed
Old pan-skimming method

Standard

—the separator that gets all but one-tenth of a pound of cream per 1,000 pounds of milk skimmed, and costs, say $75.00?"

The answer is that with a Standard you save in one year, with twenty cows, no less than $27.25. Here are the figures:

	Standard	Ordinary	Pan Skimming
First cost	$ 75.00	$ 55.00	
	7	7%	
Interest	$ 5.25	$ 3.75	
Add Depreciation	3.75 (5%)	5.50 (10%)	
Add Loss in Cream	3.00 (.10%)	30.00 (.10%)	$ 70.00
	$12.00	$39.25	$ 70.00
Saving over ordinary separators			$27 25
Saving over old pan skimming			58.00

The Standard's close skimming is substantiated by tests made at Government Dairy Schools. The Standard soon pays for itself, not only by saving cream, but by its longer service capacity. That is why only 5% is figured above for depreciation in the Standard and 10% for ordinary separators.

The Standard gives more years of service due to its self-oiling system which decreases wear and tear (all bearings run in a mist of oil), spindle shafts made of tool steel instead of ordinary cold rolled steel, centre balanced bowl, etc., etc.

The Standard has been tested for 15 years farm use without apparent wear. Will it not pay you handsomely to have the up-to-date, close skimming Standard? Let us send you a Standard so that you may test it in your own dairy. Catalogue free on request.

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Eastern Branch:—SUSSEX, N. B. Agencies almost everywhere in Canada

PURITY FLOUR

Milled especially for particular cooks— those who want

"MORE BREAD AND BETTER BREAD"

221

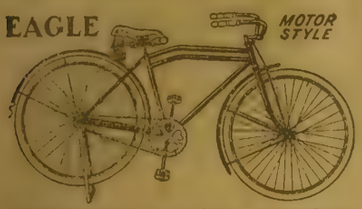
Adds Quality to Every Pound of Butter

Windsor Dairy Salt

Made in Canada

THE CANADIAN SALT CO., LIMITED

EAGLE MOTOR STYLE



Write to-day for our big FREE CATALOGUE showing our full line of Bicycles for Men and Women, Boys and Girls—Tires, Coaster Brakes, Wheels, Inner Tubes, Lamps, Bells, Cyclometers, Saddles, Equipment and Parts for Bicycles. You can buy your supplies from us at wholesale prices.

T. W. BOYD & SON,
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SPRAYED FRUIT IS EASILY SOLD

The SPRAMOTOR will enable you to produce larger and cleaner fruit. It can be used also for spraying potatoes. It is Canada's favorite and leading sprayer because of its simplicity and durability. Made for hand, horse and gasoline power. Priced from $6 to $400. Write to-day for catalogue and Free booklet on Crop Diseases.

Made in Canada—No Duty to Pay.

THE LONDON SPRAMOTOR,
3080 King St. East, - LONDON, Canada

Concrete Machinery for Farm Use
(MADE IN CANADA.)

Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas Engines.

Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont
DOUGLAS FULLERTON CO., Dartmouth, N.S.

Advertise in the Farmer

	31	105.2	5.759	7.198
Jan.	1	104.4	5.743	7.178
	2	105.1	5.785	7.231
	3	104.5	5.776	7.220
	4	110.8	5.698	7.122
	5	107.1	5.361	6.701
	6	108.8	5.494	6.867
	7	108.9	5.338	6.672
	8	109.2	5.737	7.171

The best previous seven-day butter record was 46.772 pounds, established by the purebred Holstein cow, Hester Aaltje Korndyke 133222, owned by M. J. Smiley, of Bellefourche, South Dakota.

The flattering success obtained by Mr. Cabana at Pine Grove Farms has naturally brought him into the glare of the limelight. As he expresses it, he went into the breeding of Holstein-Friesian cattle because of the great interest attached to it. He says further: "It means to me the developing of the most useful animal in the world. I find it fascinating to watch the progress and improvements we make through the application of scientific and intelligent breeding methods." Mr. Cabana has long been a prominent citizen of Buffalo, connected with various large business interests. He is an indefatigable worker and, despite his business enterprises which demand so much of his time and energy, he is intimately in touch at all times with the doings at Pine Grove Farms.

The enthusiasm and unison of progressive spirit existing among the Holstein-Friesian cattle breeders is best expressed in the telegram from the owner of the eclipsed record holder to the owner of the new champion which reads: "Congratulations on the 50-pound cow. Now that the impossible has been accomplished, where is the end?"

PRINCE EDWARD ISLAND'S DAIRY OUTPUT

The number of factories in operation was 39. Of these 28 made cheese and 11 made butter. The milk supplied for cheese amounted to 23,328,880 lbs., and for butter to 12,778,660 lbs—a total of 36,107,540 lbs. The gross value of the cheese manufactured was $409,495.22, and of the butter $184,164.20,—a total of $593,659.42.

The patrons supplying milk for the manufacture of cheese numbered 2324, and of butter 1409—or in all 3733.

It is to be noted that a very large proportion of the butter made in P. E. I. last year was made at home and of this latter we have no record.

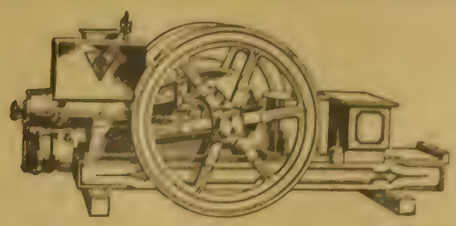
GREASE CURES TEAT WARTS

Grease is the most successful remedy I know for the long hard warts that form on the teats of milch cows. I have used carbolated vaseline, fried meat drippings and common machine oil with satisfactory results. Castor oil did not give good results. This treatment requires persistence. Failure usually is due to imperfect treatment.

Common machine oil is the best grease to use, and if applied regularly twice a day and thoroughly rubbed in good effects will be noticed within two weeks or so. With meat drippings it will be about a month before improvement is noticeable.

Two teats on one of our cows were simply covered with great bunches of warts when she first freshened. I could have clipped these warts off and applied lunar caustic, but I began treating them with grease, smearing it on thickly each time I milked, and working it well into the warts. In about five months the warts had disappeared.—F. Knox.

Doris Clay, a milkink Shorthorn owned by L. D. May, Granville Center, Pa., during the year ending January 22nd last, produced 17,241.5 pounds of milk and 653.5 pounds of butter fat.



Think of all the work this ALPHA GAS ENGINE would save you

WITH this simple, strongly built engine you can saw wood, run a pump, cream separator, churn, washing machine, feed cutter or feed grinder, and save time and labor around your farm.

If you need a gas engine, it will pay you to buy a good one. An ALPHA costs little more to begin with than a cheap, poorly designed engine, and will quickly make up for any difference in the first cost by the longer and far more satisfactory service it will give you.

The ALPHA is simple and durable in construction and is free from any of the complicated, delicate parts that make some engines a constant source of irritation and expense. You can operate it with either gasoline or kerosene, and it will develop its full published rating with a minimum amount of either.

An ALPHA is a saving investment any way you look at it. It will save the money you now must pay out to get done work that requires power, because you can own and operate it for less than it would cost you to hire some one with an engine, and it will do quickly work you are now doing by hand and give you more time to attend to other work. The sooner you get an ALPHA, the sooner it will pay for itself.

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogue of any of our lines mailed upon request

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Don't forget to make provision for to tide over the season of short pas- a sufficient quantity of soiling crops turage, during the dry season.

Supplying the Demand for Royal Purple Calf Meal

This baby food for young animals is partially pre-digested, and can be fed to the youngest animals with perfect safety. It WILL NOT cause stomach or bowel trouble, which are serious ailments in young animals. Royal Purple is a sure preventive for scouring.

Calves Gain Rapidly Without Milk

When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark:

Mr. Geo. W Collins, Plainfield Ont., writes:

"Gentlemen,—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: Uxbridge, Aug. 5th

This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist. Mr. T. C. Nicholls, of Uxbridge, and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried. I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves."—Stanley W. Croxall.

Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle, and is an excellent authority on Calf Foods.

Royal Purple Calf Meal is equally good for young colts, lambs and young pigs. Put up in 25-lb., 50-lb. and 100-lb. bags. Secure it from our dealer in your town.

W. A. Jenkins Mfg. Co., Ltd., London, Can.

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FREE BOOK

Send for our 80-page book which describes the common diseases of stock and poultry; also methods of feeding and our many products. Get a copy to-day.

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1–$2–$3 Weekly.
We trust any Honest Person
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EUREKA HARNESS OIL is a scientific preparation.
It is a pure mineral oil, therefore cannot turn rancid.
It contains no acids, and so does not destroy stitching.
Eureka tones up all black leather—makes it bright, shiny, pliable—new looking.

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Branches
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Only $1.29 Postpaid
For This Lovely House Dress

Nowhere else could you buy a dress like this for $1.29. It would cost $2.50 to $2.75 in any of the large city stores.
It is made of the finest quality gingham, vest style front, with Chambray collar and cuffs. It is cut full size in every way. Neatly finished with deep sea pearl buttons. It will wash and wear until you are tired of it. Made in all sizes 34 to 46; colors either blue stripe or grey stripe.
These dresses are absolutely the best value you can secure, and a great bargain at this price

READ OUR GUARANTEE.
We will send you this dress, all charges paid, on receipt of $1.29. Express or Post Office money order, and guarantee if it is not the best value you can buy anywhere, or if it does not suit you in every way we will cheerfully refund your money.
Specify color and size when ordering. Don't delay. Write today. Remember it does not cost you a cent if it does not suit you in every way.
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Farmer Office
Sussex, N. B.

LIVE STOCK.

SHEEP AND DOGS

Editor The Maritime Farmer:

I have noticed the efforts of the Farmer in the matter of increased production; particularly in sheep. It is the fashionable thing now-a-days, for Editors and speakers at agricultural meetings to condemn the dog as the sole cause of the enormous decline in sheep farming. In my opinion the dog bogey has little or nothing to do with the practical abandonment of sheep farming in many sections. It is an easy excuse for not doing something that many more should be doing. Horned cattle have decreased in numbers as well perhaps not in the same proportions, but a decided decrease. One might as well stop growing hens, because the hawks often get a part of the chicks.

Forty years ago, when every farm had its flock of sheep and its dog, the dog was not a live issue, the farmer and his family were dressed in home grown cloth, and quite a proportion of his income was derived from sheep products. I remember when my father trucked frozen mutton eighty miles to Halifax and sold it there at five cents per pound. In those good old days a lamb skin brought a quarter, a sheep pelt one dollar; wool we sold at the corner store for fifteen cents per pound in trade. At that time there were twenty flocks of sheep in gunshot of my home and quite as many dogs. No one then was talking of the "dog nuisance." "The lion (dog) and the lamb lay down together."

Now, the institute man and local politican, when speaking to a rural audience thinks it good policy to excuse the shiftless lack of sheep production by throwing the odium on the dog.

Admitting for the moment that the dog is the trouble, what are we going to do about it? The Provincial legislatures have been making dog laws since my earliest recollection. Prof. Cumming says the Nova Scotia Sheep Protection Act is the most drastic in Canada, admitted, but any legislation is useless unless enforced. The weakness of it all is, there is no official "dog killer." To give concrete evidence, the Municipal Council of Kings County have been endeavoring for the past ten years to enforce the Nova Scotia Act. A tax of one dollar each was ordered to be levied on all dogs, to be collected by the local tax collector. That looked easy; but how did it work out. There are fourteen wards in the Municipality and fourteen tax collectors. The first year one collector reported a few dollars in dog taxes, the other thirteen said nothing about dogs. The Council in its wisdom ordered the collector who had done his duty to pay back the dog tax, as no other ward had collected it. This, by the way, the collector promptly refused to do and lost his job in consequence. The collectors of course were under bonds for the collection of the usual property tax, but could not be bonded for the dog tax, as it was impossible to know how many dogs there were in a ward, and the auditor could not check up the collections. Then the assessors were instructed to assess the owners of dogs. This also was a failure. Some made an attempt to assess, others made no attempt; no one did the work thoroughly, so confusion reigned supreme. Some tax collectors charged a dog tax to every householder, others let it go entirely. One year I discovered I had paid taxes for two dogs, being assessed for two places and never owned a dog in my life. The imposition of a dog tax in this county has not had any effect in lessening the dogs. Nor do I think it will have any effect in any way on the sheep industry. Any responsible person who values his dog will pay one dollar tax when called on, while the irresponsible people will keep the dog and evade the tax in some way, unless drastic measures are taken. A five per cent commission for collecting a one dollar tax is no particular inducement for the collector to make much effort in getting it. The clause in the Act providing that any person may kill a dog found wounding or persuing sheep is all very well, but who will catch the dog. No sheep man would ask for any law at a time like that, if he can catch the dog. Clause (V) "Any person may kill any dog being at large without a collar, etc., is so much waste of legislation for no man is going round with a gun, shooting every dog he sees.

After some fifteen years experience of honest effort to enforce the dog tax in this Municipality, in an endeavour to encourage sheep production, I am of the opinion that the dogs are not one less nor the sheep one more by reason of these attempts. We must forget the dog fad and look for other reasons for the lack of production.—S. C. Parker, Berwick, N. S.

"With your Milking Machine I can Produce Milk of Superior Quality"

The writer of the letter below is known throughout his district as a keen and rather critical judge of dairying methods and equipment. They say he is a "crank" on quality! Certainly the John D. Duncan Co., of Montreal, are most particular about the purity of the milk they get for their patrons.

RIVERFIELD, QUE., Jan. 25, 1917

Gentlemen:—
I have noticed some of the testimonials you are publishing and thought I would let you know how I like the Empire Milking Machine and Empire Engine which I purchased from you in the month of April, 1916. It has given entire satisfaction. I have had considerable experience with engines for many years, and am consequently in position to appreciate the merits of the Empire, and recommend same as one of the most reliable for milking machine and general farm work.
With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operator.
J. R. McKELL.

EMPIRE
Mechanical Milkers

produce milk of high quality, at the same time that they save time, reduce expense, increase profits, and make it possible to keep up and even increase the number of cows milked, in spite of the growing scarcity of help. They certainly are worth investigation.

Write for Booklets explaining the correct nature principle on which the Empire works, and giving the experience of prominent Dairymen who are using it. Address Dept. L

THE EMPIRE CREAM SEPARATOR CO. of Canada, Limited.
MONTREAL. TORONTO. WINNIPEG. 63

I cleared my land with a

Kirstin Stump Puller
"MADE IN CANADA"
THE GOLD IN YOUR STUMP LAND
Largest manufacturers in the World of Stump Pullers—hand and horse power
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Kirstin
One Man Stump Puller

And You Can Make Your Farm Just As Productive

The Farmers in European Countries raise enormous crops on just a few acres because they utilize every foot of ground while many Canadian Farmers waste from 15% to 25% of their best land by permitting stumps to remain. Are you one of them?
Our illustrated booklet "The Gold in your Stump Land," which will be sent for the asking, gives particulars about the KIRSTIN METHOD of clearing Land, (the Method that is *guaranteed* to do the work from 10% to 50% CHEAPER THAN ANY OTHER.) Mail the coupon and find out how easy it is to increase the production of your farm.

A. J. Kirstin Canadian Co.
6029 Dennis Street
SAULT STE. MARIE, ONT.

A. J. Kirstin Canadian Co., 6029 Dennis St., Sault Ste. Marie, Ont.
Send me a Free Copy of "The Gold in Your Stump Land" and full particulars of The Kirstin Method. The Money Back Bond. The 15 Year Guarantee. The Profit Sharing Plan.

Name .....

Address .....
Sending this coupon obligates you in no way.

Farm Horses
in the Spring

Must spend long hours at hard work. Their systems should be strengthened —their blood purified—their digestion and assimilation made better.

INTERNATIONAL
Stock Food Tonic

tones up the horse's system, gives him new life and a glossy coat of hair, purifies the blood, and quickly puts run down and out of condition horses in good shape.

Its cost to use is remarkably small—
"3 feeds for one cent."

Thousands and thousands of farmers in all parts of Canada use International Stock Food Tonic at this season of the year to help put their horses in proper condition for the heavy Spring work.

Start right now getting your horses in proper shape. Buy a package or pail from your nearest dealer. Try it on some of those unthrifty horses. You will quickly see a change.

International Stock Food Tonic has stood the practical test of farmers everywhere for 27 years. Why experiment with substitutes or imitations?

International Stock Food Tonic is put up in 50c. and $1.00 packages, $1.50 lithograph tins, and 25 lb. pails at $3.75 each.

Buy from your Dealer. If he cannot supply you write us direct. 203

INTERNATIONAL STOCK FOOD CO., Limited
TORONTO • ONTARIO

CO-OPERATIVE WOOL SALES

Wool buyers are again at work in the Maritime Provinces. They generally have a pretty fair idea of what prices will prevail at shearing time, and if prices are likely to drop, they would not naturally be trying to make contracts at this early date.

If there is any benefit coming to the sheep-raiser in the shape of higher prices for his wool, he is entitled to every cent of it. By the system of selling co-operatively, good prices have been secured in many other lines of farm products, and the same has been proved true in regard to the disposal of wool. The Prince Edward Island Wool Growers, The Antigonish Wool Growers and the Sussex Wool Growers have given the co-operative sale of wool a fair trial, and the results have been more than satisfactory to the growers.

In the spring of 1915 the Sussex Wool Growers realized 37, 35, 33 and 31 cents per pound for their unwashed wool, according to grade, when the prices being paid locally and by wool buyers, who scour this territory every spring, was from 28 to 29 cents. In 1917 they realized 38¼ cents per pound, which was several cents above the prices offered locally. Money talks and it was quite gratifying to the secretary when handing out the cheques, after the wool had been sold, to hear the growers remarks that the various amounts were handsome figures in excess of what they would have been, if the co-operative sale system was not followed in this vicinity.

To the stand patters, who do not think it worth while to join their fellow farmers in any co-operative movement, we would say that they are profiting by the co-operation of their more progressive neighbors, and they may rest assured that, were it not for the co-operation existing in their vicinity, the prices offered for their wool by the buyers would be several cents lower than they are forced to offer in an attempt to come anywhere near the prices realized by the co-operators

The story is told of a prominent dairyman in Yarmouth County, N. S., who had a good market in town for his butter at the time the creamery was there established. He would not patronize the creamery—he would make butter at home.

The party to whom he sold his entire output told him: I have been paying you 30 cents per pound for your butter, the quality is excellent and I am willing to pay you as much per pound for it as I have to pay for creamery butter, viz. 32 cents per pound. The fair-minded dairyman, despite the fact that he was a stand patter at first, so far as the creamery was concerned, replied: If the creamery is the means of getting me two cents per pound more for my butter, it is up to me to patronize the creamery, and he did, and is today one of its staunchest patrons.

Would that there were many more farmers as fair minded as this Yarmouth farmer.

A farmer brought his washed wool to the Agricultural School in Sussex in 1915, but would not leave it as he could not get his cash for it that day. He put up the argument that there would be so many deductions for fees, etc., that he would prefer to sell elsewhere, where he would know just how much he was going to receive for it. He was not a co-operator. He was not willing to take any risks. Another farmer on hearing his argument asked how much he would take for his wool? He replied, "I will take 30 cents per pound, the price I can get for it from the other buyers today. The wool was weighed and changed hands immediately at the price stated.

The new owner put the wool in with his own for co-operative sale, and two weeks later when the wool was sold, he realized 45 cents per pound for it.

The farmer who seels his wool co-operatively can not possibly get any less for it than he is being offered by local buyers, and his chances are good to get a great deal more.

YOUR EYES

Poor vision often account for the nervous condition, so often found in children, headaches and so-called growing pains. Errors in vision very frequently cause cross-eyes and if a child begins to snow symptoms of cross eyes, no matter how young, the eyes should be properly tested, and if necessary treated, as such conditions usually increase, and after they have reached the stage where one eye only is used, the othe reye loses its vision to a greater or less degree.—Louisiana State Board of Health.

GILSON
THE DOMINANT ENGINE

SEND for our free trial offer, and special introductory price and catalog.

GILSON MFG. CO. Ltd. 276 York St. Guelph, Ont.

27

DE LAVAL
The First, the Best Known and the Greatest
CREAM SEPARATOR

Better Now Than Ever Before

THE first practical continuous cream separator, the De Laval has easily maintained its original success and leadership for nearly forty years. Step by step, year after year, by one improvement after another, the De Laval has led in every single step of cream separator development and improvement.

The first belt driven, the first steam turbine driven, the first of every kind of hand turnable, the first disc bowl, the first blade bowl, the first bottom or suction feed, the first split-wing feed, the first feed-through-the discs, the first self-centering bowl, the first automatically oiled—all these and a hundred other features of separator development and improvement have been conceived by De Laval inventors and perfected by the De Laval Company, most of them to be cast aside for something still better in the ever onward advance of De Laval construction.

The New 1917 De Laval

And now, in the De Laval machines for 1917, a number of new and still further improvements have been made, which make the De Laval machines of today much better in many respects than they have ever been before.

Their capacities are greater per dollar of cost; they skim cleaner under the more difficult conditions of separator use; they are equipped with the most improved speed regulator, thus insuring the proper speed necessary for complete separation; they are even better lubricated, and the bowl construction is even more sanitary than ever.

In other words, superior as the De Laval machines have always been to all would-be competitors and utilizers of abandoned De Laval features, the De Laval machines of 1917 are improved and superior in every way to all previous types and models of De Laval construction.

All these improvements and new features are described and explained in the new 1917 De Laval catalog now ready for mailing, but some of them are difficult to describe and make fully understood by words.

Be Sure to See a New De Laval

The new De Laval machines themselves best explain their new and superior features, and their use does this more completely and convincingly than even an examination of them. Every local agent is glad to afford opportunity for examination, and better still, for home test of a new De Laval machine.

But the demand for the new machines is a month ahead of the possible supply under the present difficult conditions of manufacture and freight distribution. More De Laval machines by half have been made in 1917 than ever before, but the De Laval Works is now ten thousand machines behind actual orders, and the demand is ever increasing.

Hence, the importance of securing a machine quickly if your local dealer happens to have one, and of ordering well ahead if he does not. And likewise, the importance of waiting patiently a little for a machine if need be.

A new De Laval catalog will be gladly sent on request, and if you don't know your nearest local agent please simply address the nearest De Laval main office as below.

THE DE LAVAL COMPANY, LTD.

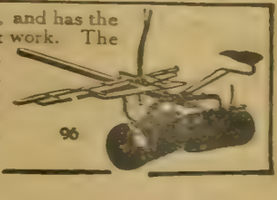
LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

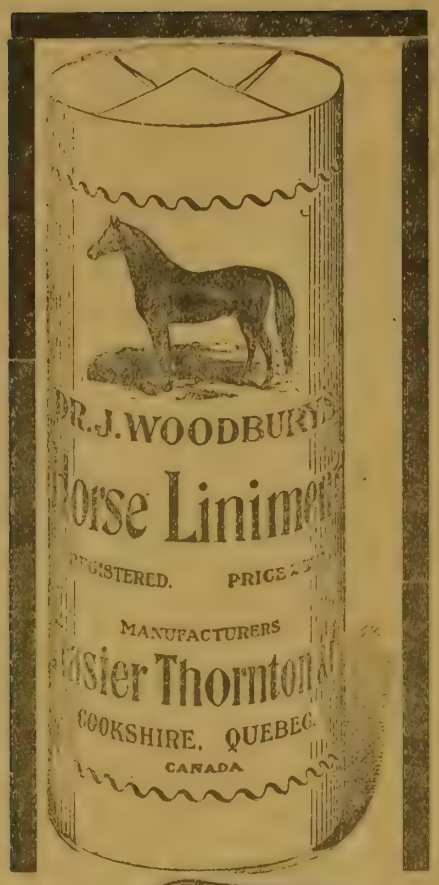
MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

The Bissell Disk takes hold of any soil, and has the "knack" of doing great work. The Disk Plates are of special design—they cut and turn the soil over. The draught is lighter, too, than any other Disk. In fact, you won't find another Harrow that can begin to compare with the record of the Bissell. Write Dept. M for free catalogue.



T. E. BISSELL COMPANY, LTD., ELORA, ONT.



THE HORSE

HELP THE HORSE TO UNDERSTAND YOUR COMMANDS

Is it not delightful to work a thoroughly broken, well matched team? By matched team, for this purpose, is meant, a pair nearly or quite equal in pulling power and ambition. If they are of the same color and markings so much the better. If one has never worked a thoroughly broken or educated team, and many men have not, he may imagine a pair of horses working with the smoothness of a machine yet superior to the machine because of intelligence. A machine may be called automatic, but it is still inanimate. Imagine a team that promptly responds to a word without its being repeated. You are planting and have gotten slightly off the gauge mark; you pull ever so lightly on the line in the direction you wish to regain. The well broken horse steps over promptly, instead of just turning his head and holding doggedly to his own course You are plowing and when you reach the corner of the land, you utter one word and not another inch does the plow move. You have not even tightened the lines. When asked to turn, instead of turning with the front feet only, causing the traces to pull tightly about the hocks, and the plow to turn in past the corner, the step over with all four feet bringing the plow in square on the corner. Neither do they brace against the tongue, when turning on the drill or the mower, causing sore necks and hairless legs, but step over quickly away from the tongue.

When you are unhitching or hitching up, and one horse happens to be a little too far back to allow the pole strap to be connected or be removed as the case may be, you do not have to hold the tongue and neckyoke in one hand while you get him by the bit and drag him reluctantly forward. Instead, you pull slightly on the pole strap and he steps up promptly. Dozens of similar, we may say—little courtesies, does the well broken team perform. And these things are not done with reluctance and stubbornly, but with seeming pride and pleasure. The well broken team, fear, love and obey. But no sign of fear is shown unless they know they are doing the wrong thing. They have perfect confidence in the master. They know he will never strike or punish them in any way unless they refuse to obey. This sort of team know that their master is a man who never strikes thoughtlessly, no matter what his mood.

A well broken team lightens the drudgery of farm work, both for the team and the man. The labor of working a stubborn, unbroken team, fully equals and sometimes exceeds the labor of operating the machine being used. One day we were cutting clover. The stand was so heavy and badly lodged that we couldn't tell where the sickle left off, as it was impossible to separate it. We solved the problem by putting Dick, a five-year-old gelding, on the sickle side. He could tell just exactly where to walk so we just gave him a loose line and there wasn't a hitch in the work.

The most common error in managing horses is a careless habit of talking to them. Too many words are used and the words are repeated in such conflicting terms and so often that the horses become confused and discouraged. The only thing left for them is to depend on the line. By its feel only can they tell what is wanted.

A few don't for the man who would like to have a well-broken team:

Don't say "Whoa back," when you want your team to stop. Just say "Whoa". Say it distinctly, so they may hear, and then see that they stop promptly.

When you want them to back, don't start pulling on the lines and afterward say "Back-up." Just say "Back." Say it before you pull on the lines; then if they do not back, pull firmly, but not continuously. When they have backed far enough, say "Whoa." Don't say "Get up." A little practice and it will not be necessary to pull on them at all when they are wanted to

Paroid Roofs First Laid in 1898

NEPONSET **Paroid** ROOFING

Same Roofs Still in Service

PAROID is so good that the name has come to stand for the best kind of roofing. Complimentary, but dangerous! It means that for your own protection you must look for the name Paroid on every roll you buy. Then you are sure of the roofing that is approved by the National Board of Fire Underwriters.

SAVE MONEY

Look for the Roll with the PAROID Label

Once laid, a Paroid roof is weather-proof and fire-resisting for years to come. The saving on repair bills alone ensures the economy of Paroid, to say nothing of the absolute protection to your stock and crops.

3 permanent colors—Red, Grey, and Green.

For your home, use Neponset Twin Shingles.

Look for the Neponset dealer and get genuine satisfaction.

BIRD & SON, Dept. M HAMILTON, ONT.

The Largest Manufacturers of Roofing, Wall Board and Roofing Felt in Canada

Warehouses: Winnipeg Calgary Vancouver Montreal St. John Edmonton.

Makers of Neponset Wall Board 121

ABSORBINE

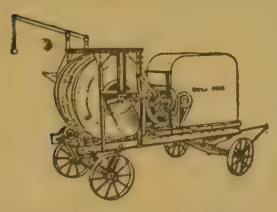
TRADE MARK REG. U.S. PAT. OFF.

Removes **Bursal Enlargements Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain:** Stops Spavin Lameness. Allays pain. Does not Blister, remove the hair or lay up the horse. $2.00 a bottle, delivered. **Book 1 K free.**

ABSORBINE, JR., the antiseptic liniment for mankind. For **Synovitis, Strains, Gouty or Rheumatic deposits, Swollen, Painful Varicose Veins.** Will tell you more if you write. $1 and $2 per bottle at dealers or delivered. Manufactured only by **W. F. YOUNG. P.D.F. 124 Lymans Bldg., Montreal, Can.**

Absorbine and Absorbine, Jr., are made in Canada.

"HANDY"
LONDON CONCRETE MIXER



Capacity 40 cu. yards per day. Price complete with gasoline engine $225.00. Pays for itself in fifteen days' use. Built to last a lifetime.

Send for catalog No. 1 K.

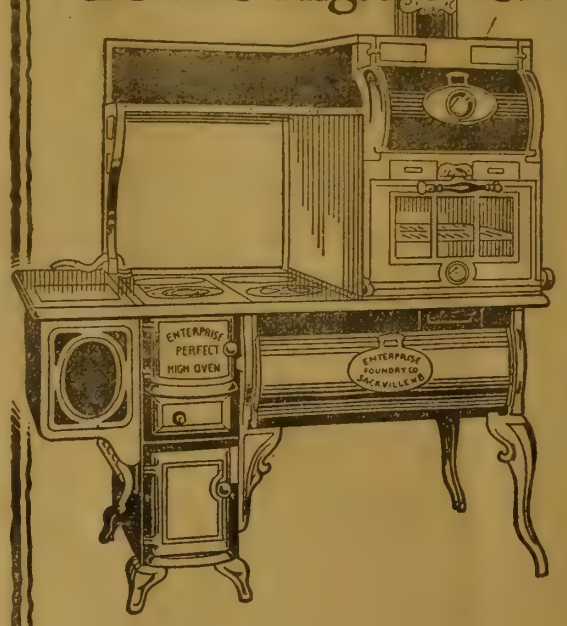
LONDON CONCRETE MACHINERY CO., Dept. E, London, Ontario

World's Largest Manufacturers of Concrete Machinery

If a Woman Were to Design a Range

She would include every single feature possessed by

The Enterprise Perfect Double High Oven Range



Simplicity of Operation

Burns Coal or Wood

Saves Time, Fuel and Labor

Just the right height to work over.

No More Stooping.

Two large ovens so that cooking and baking can be done at the same time and with the same fuel.

Send for illustrated circular giving full information to

THE ENTERPRISE FOUNDRY CO.

Sackville, N. B.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

MINARD'S
"KING OF PAIN"
LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

BY PRODUCTS OF YOUR INVESTMENT

You pay for the best business training obtainable but outside of this advantage one should not overlook the so-called by-products. Among these is the pleasure of associating with a class of young people of high caliber, from good society, high school and college graduates, people with ambition and purpose in life, who are sure to inspire an immense amount of enthusiasm and ambition into your life.

Enroll Now.

Moncton Business College,
Moncton, N. B.
G. J. Schmidt, Principal

America's Pioneer Dog Remedies

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

back.

When they are wanted to start, don't slap them with the line or touch them with the whip and afterward say "Get up." Say it first and give them a chance to obey.

No man who uses the above careless manner of speech or habit of handling horses need ever expect to have a well mannered, delightful team to work. It is utterly impossible. Put yourself in the horses' place. Should your driver strike you with the whip and then tell you to get up, would you not resent it? Wouldn't one say to him: "Why did you not tell me you were ready to start?" If he gave your mouth a yank with the line and then afterward said: "Back up," wouldn't you say: "How did I know you wanted me to back?" Or would you say: "Did I understand you to say back up or get up?" In short, you would soon come to a quarrel with such a driver and would eventually balk.

Let us treat with more consideration the most noble beast we have. Let us lighten his burdens and at the same time it will lighten our own.

MORE MILEAGE FROM OLD TIRES

Many motorists using tires that have given good mileage, but have developed weak places in the fabric, have wondered whether in the interests of economy they should scrap the old tire or spend good money in an attempt to coax more miles from it. Innumerable tires are constantly being discarded before their real usefulness is over.

"Before discarding an old tire," says G. E. Brunner, a Goodyear expert, "it is well to show it to a competent repairman. He will generally be able to determine whether the expenditure involved will result in the additional mileage expected.

"Tire repairmen are not taking the long chances they once did. The dependable vulcanizer today recommends only such work as he believes will effect a saving to the motorist. If a repair is inadvisable he will not recommend it, for every job of that character means a dissatisfied customer.

"There are a number of ways in which tires apparently worn out can be made to render much greater mileage. If the tread of a tire is worn down, but the tire otherwise in fair condition, several thousand miles of service may be secured by having it retreaded. Oftentimes an inside tire protector cemented on the inside of the casing will restore or partially restore its original strength."

SALLENDERS

"Overgrown three-year-old gelding stocks in hind legs. Is in poor condition. Is turned out every fine day for exercise. Feed red top hay three times a day; oat chop, half-gallon, morning and evening; and three nights a week boiled oats and barley with crushed flax. On inside of hind legs i.e., at bend of hock joint, is very scurvy. Sore place burst and run matter. Had trouble with teeth, but these are now better.—G. M.

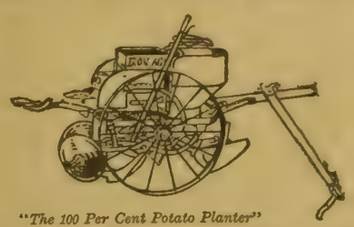
The condition affecting this horse's legs is known as sallenders, and is a form of eczema which causes a chronic scabby condition of the skin in front of the hock. Coarse overgrown horses are most commonly affected. Cases of this kind are difficult to entirely overcome, as the animal is usually predisposed and requires constant attention and careful dieting. Bran mashes should be fed every few days and a cupful of Glauber salts added to the mash. The kidneys should be kept stimulated by giving a tablespoonful of saltpetre in the feed or drinking water at least once a week. The best treatment to apply to the affected part is healing ointments, such as zinc oxide ointment.

Don't Waste the "Golden Nuggets"!

Make every seed-piece count, yet make sure of a full stand. This boy will help you do 100% potato planting, with no doubles and no misses. He will save you 1 to 2 bushels per acre—some say a barrel. He earns his way many times over. You can't afford to do without him. Use the seed-saving

IRON AGE Potato Planter

It plants as fast as the team can walk, spaces the seed evenly and at uniform depth. Has no pickers—nothing to cut or bruise the seed. Spreads the fertilizer and thoroughly mixes it with the soil so that it can not injure the seed. Can be had in two styles with or without fertilizer attachments and with choice of furrow openers.



"The 100 Per Cent Potato Planter"

Write today for booklet fully describing this 100% Potato Planter. We also make a full line of potato spraying, cultivating and garden tools.

Bateman-Wilkinson Company,
Limited
43 Symington Avenue,
Toronto, Ontario.

Maritime Distributors
J. CLARK & SON, Ltd.,
Fredericton, N. B.

IN THE FIELD MAKING MONEY—

or lame in the barn, "eating their heads off"? One means profit—the other means loss. When a horse goes lame—develops a Spavin, Curb, Splint, Ringbone—don't risk losing him through neglect—don't run just as great a risk by experimenting with unknown "cures". Get the old reliable standby—

KENDALL'S SPAVIN CURE

Mr. David Yerex, Sonya, Ont., writes—"I have used your Spavin Cure for fifteen years, and know it to be a good cure". Be ready for emergencies, keep a bottle of Kendall's in the barn. Then, if a horse goes lame, you have the remedy on hand to cure the trouble quickly. $1. a bottle—6 for $5. at druggists'. Ask your dealer for free copy of book—"Treatise On The Horse"—or write us direct.

Dr. B. J. KENDALL CO., - - ENOSBURG FALLS, VERMONT, U.S.A. 110

OMAZON

The Canadian Food and Tonic for horses, cows, hogs, sheep and fowl, is composed of nourishing ingredients made from medicinal powders and roots constituting the best food and tonic for animals.

Omazon causes the disappearance of all disgust for food, constipation and congestion of the bowels, colics and diarrhoea.

All farmers and breeders should have it at hand.

For Sale by all progressive merchants.

DR. ED. MORIN & CO., LIMITED, - Quebec, Canada

POULTRY.

SUMMARY OF TEMPERATURE EXPERIMENTS IN INCUBATION

1. A temperature of 101-102-103 degrees, the first, second and third weeks respectively, using a standing termometer on a level with the top of the eggs but not touching them will prove very satisfactory in the artificial hatching of hens' eggs.

2. A temperature slightly above or below 101-102-103 degrees will not influence the hatch one way or another.

3. A temperature of 103-104-105 degrees is too high and will injure the hatch greatly.

4. A temperature of 102-103-104 degrees is a little high for successful incubation.

5. There seems to be little difference in number of chicks hatched between machines run at 100-101-102 degrees, and machines run at 101-102-103 degrees. This means that at such low temperatures a variation of one degree or more will have little influence.

6. Operators of incubators should endeavor to hold down temperatures below common practice, rather than allow them to rise above it.

7. Brown and white eggs need the same temperature.

8. Brown eggs are no warmer or cooler than white eggs.

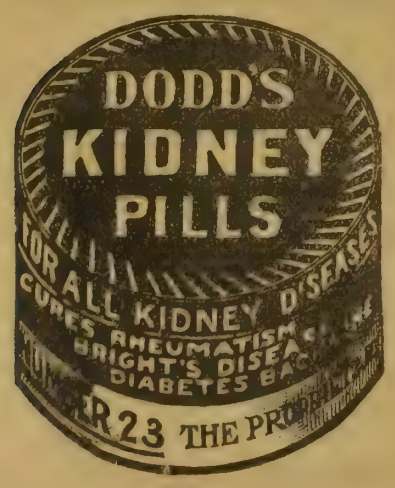
9. Brown eggs have a tendency to produce poorer fertility, more dead germs, more chicks dead in shell and fewer chicks than white eggs. No reason from the standpoint of incubation can be given for this peculiarity.

10. Under ordinary conditions it is reasonable to expect white eggs to be 90 per cent. to 92 per cent. fertile and hatch 75 per cent. of the fertile eggs. Brown eggs will run 2 per cent. less in fertility and 12 per cent. to 15 per cent. less in hatchable fertile eggs.

11. Touching thermometers average slightly higher temperatures than standing thermometers. Such differences have no influence on the hatch.

12. As the chicks develop in the eggs, they give off heat tending to equalize the temperature in all parts of the machine. This is demonstrated by the hanging thermometer. This thermometer runs at a uniform temperature for the three weeks, but the temperature at the level with the eggs, start about 2.5 degrees lower and rises until it comes within one degree of the hanging thermometer temperature on the twenty-first day.

13. A temperature with a standing thermometer of 100.5 degrees the first week, 101.5 degrees the second and 102.5 degrees the third week compares well in temperature and hatching results with a hanging thermometer temperature of 103 degrees for three weeks.—A. G. Philips, Purdue University, Lafayette, Indiana.



Raise Poultry

"There's Money in hens"

To increase the Nation's Food Supply

This is a Patriotic National Duty

10,000,000

Ten million more hens are needed to meet the home and overseas demand for eggs.

That means 15 more hens on every farm in Canada.

Raise two additional broods of chicks and let the hen help you increase production.

Every pound of food produced helps defeat the enemy.

Britain makes insistent demand for eggs at high prices.

Patriotism and profit both urge you to increase the supply.

Let the hen help you.

Interest your boy and girl in poultry keeping.

If you need information on any subject connected with poultry raising and marketing, write,

THE INFORMATION BUREAU,

DOMINION DEPARTMENT OF AGRICULTURE,

OTTAWA.

HONOURABLE MARTIN BURRELL, *Minister.*

FEED PROPER RATION IF YOU'D HAVE EGGS IN WINTER

Start now to tone up that egg machine and get it in order for maximum winter egg production, by having early hatched pullets and hens to be held over on a good stimulating egg-making ration.

The following ration is stated in parts by weight:

Wheat	20 parts
Corn	20 parts
Oats	10 parts
Bran	10 parts
Middlings	5 parts
Linseed meal	5 parts
Cut bone	10 parts
Beef scrap	5 parts

Oyster shell
Grit — Milk
Charcoal — Green feed

The nature of any ration is governed largely by the feed available, and the price. In this ration, if corn is higher priced than wheat, it can be reduced to 10 parts, the wheat increased to 30 parts, or 10 parts of ground kafir or ground barley substituted. By increasing the bran, middlings and linseed meal, the wheat can be reduced.

Unless corn is so high priced that grinding is necessary, corn, wheat and oats will constitute the whole grain to be fed morning and evening in a deep litter. During severe winter weather, corn should be fed sparingly in the morning and heavily in the evening.

Bran, middlings, linseed meal, cut bone and beef scrap will constitute the mash. This can be mixed in large quantities and fed either by the dry mash method of keeping it in hoppers before the birds at all times, or as a wet wash, moistened with milk and fed at the middle of the day.

During the coldest winter days, and also in starting the birds, the most stimulating results will be obtained if the wet mash is fed warm. Milk should be before the birds at all times. If milk (skimmed or buttermilk) is not available, the cut bone and beef scrap must be increased.

Green feed is essential. Sprouted oats give best results, but a warm room or cellar in which to grow it must be provided. Steamed alfalfa leaves made an excellent greens substitute. Cabbage and numerous other garden vegetables can be used, but the cost is often prohibitive.

Birds should have constant access to oyster shells, grit and charcoal supplied in special hoppers.—C. S. Anderson, Colorado Agricultural College, Fort Collins, Colorado.

A chick in the hand is worth 2 in the shell

To raise all your chicks—to prevent bowel trouble, drooping wings and Baby Chick diseases, use

***Pratts* Baby Chick Food**

Contains just what's needed to make bone, muscle, and feathers. Largely predigested, finely ground and packed in dust-proof bags and cartons at 25c, 50c and $1.00. At your Dealer's.

PRATT'S White Diarrhoea Remedy used in the drinking water prevents and cures this dread disease. Write for FREE Book on the Care and Feeding of Baby Chicks.

PRATT FOOD CO. OF CANADA, Limited TORONTO P-11

68F Claremont Street

HAD WEAK HEART

COULD NOT WORK
COULD NOT SLEEP.

Many women are kept in a state of fear of death, become weak, worn and miserable and are unable to attend to their household, social or business duties, on account of the unnatural action of the heart.

To all such sufferers Milburn's Heart and Nerve Pills give prompt and permanent relief.

Mrs. J. Day, 234 John Street South, Hamilton, Ont., writes: "I was so run down with a weak heart I could not even sweep the floor, nor could I sleep at night. I was so awfully sick sometimes I had to stay in bed all day as I was so weak. I used three and a half boxes of Milburn's Heart and Nerve Pills and I am a cured woman to-day, and as strong as anyone could be. I am doing my own housework, even my own washing. I doctored for over two years but got no help until I used your pills."

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

HATCH EARLY FOR WINTER EGGS

One secret of winter eggs lies in early hatching. Chicks hatched not later than mid or late April will mature in time to lay eggs in the fall, when the supply is light and the prices are high. It is from such eggs that poultrymen may expect the best profits. This common fact so generally overlooked by poultry raisers, should receive more attention. The growing use of incubators makes it possible to begin the hatching season in February, bringing forth a robust flock of young chicks in March. Practically all of the hatching should be over by late April.

It is a little trouble to start the hatch so early in the season, but the experience of those who now follow this practice conclusively points out that the trouble and expense will be amply repaid. Early hatched pullets may be expected to average one egg for every five hens through the fall and winter. In some cases an average of one egg for three birds will be obtained.

Cheeks Like The Wild Rose

For all complexion ills—for Pimples and Blotches and Sallow Skin—take the one thing that will cleanse the system of impurities.....

Dr. Wilson's HERBINE BITTERS

Creams and ointments and lotions won't do it—because they only treat the skin. The trouble lies deeper—*in the blood*. Purify the blood—cleanse the stomach—regulate the Liver—and you will have a complexion like the wild rose.

Dr. Wilson's Herbine Bitters is Nature's tonic and blood purifier.

25c. a bottle. Family size, five times as large, $1. At most stores. 27

The Brayley Drug Co., Limited, St. John, N.B.

PREPARING FOR SPRING

If it has not been done before, all the old litter should now be removed and replaced with an extra large quantity of new. There is little danger to be apprehended from dirty litter in right cold weather, but when the accumulated excrement begins to soften with the coming of more moderate temperature, a foulness results which is one of the most prolific sources of canker and roup. The birds, too, transfer the nastiness on their feet to the nest, besmearing the egys and impairing their appearance in the market, for nothing can be done to a soiled efg that will fully restore its original neat appearance.

As to what to use for litter. probably a majority vote would decide for straw, yet I sometimes think a cheap quality of hay is little inferior on the whole, and has the distinct advantage of supplying many a bit which the fowls find greatly to their liking, and which doubtless add an element of "green" to the ration, of which there is no danger of an oversupply in winter. I have proved to my satisfaction, in fact, that an occasional bag of clear hay chaff, while somewhat objectionable on the ground of dust, is highly appreciated by the birds, and tends to increase yield and fertility. As someone is sure to raise the bogey of "crop bound" as a likely result of using a hay litter, I can only say that I have never had any trouble of this nature from its use. But whatever the material decided upon, be sure to have it of good length of stem as well as ample in quantity, for a tangled litter entails much more strenuous exercise than is possible with one of leaves or shavings. And in breeding season there is need of the most vigorous exercise to insure fertility and strong, healthy chicks.

Begin working the snow away from the houses, especially those situated low, lest water work in when the rains come that cannot be much longer delayed. A little moisture in one corner will soon be disseminated through the entire litter by the work of the fowls; and damp litter means sick birds. While it is not advisable, on account of warmth, to entirely bare the roofs of buildings, the excess of snow should be removed, as a precaution against a sudden violent rainfall, resulting in a collapse.

If you have not been in the habit of removing droppings frequently, get after them as soon as they begin to soften from the effect of warmer weather. They then not only exhale a most disagreeable and unwholesome odor, but the birds usually take to scratching them over, besmirching themselves as well as nests and litter.

Fowls have a yearning for outdoor with the opening of the spring feeling in the air, and while many argue that cold feet mean a lessened egg yield, I plan to get my birds out on the ground as early as possible, usually shoveling a strip bare for them to stand on. If from this they occasionally venture out on the surrounding snow, I have never found it detrimental to health or egg production.—J. L. Woodbury.

J. W. Scovil, manager of Oak Hall, St. Stephen, has offered to provide a prize of $25.00 for the best three acres of potatoes grown in Charlotte county in the coming season. This is a tangible encouragement to the increased production campaign, and one that is expressive of the donar and his progressive mercantile house.

Have you asked your neighbor to become a subscriber to the Maritime Farmer? It will not cost you any thing to do this, and we will consider it an old friend's act.

Get all the Cream with a Lily

YOU cannot expect to get all the profit from your cows unless you have a separator that skims clean. Why don't you make up your mind now to buy a **Lily** cream separator, for the **Lily** skims so close that it leaves hardly a drop of cream in each gallon of skim milk.

Besides saving money, a **Lily** separator saves a lot of work. It can be kept perfectly clean and sanitary with five minutes' work after each separation. The oiling is automatic. Renew the oil about once a week; fill the chamber to a plainly marked level, then every bearing is oiled by the spray from the spindle drive gear. Nothing could be simpler.

Buy a **Lily** separator. It skims clean. It is easy to care for. It oils itself. It turns easily. It takes up little room in the dairy. It is a safe, sound, well-made machine, easily kept in perfect working condition. A responsible Company stands behind it. You can't get a better cream separator.

Even though you are not in the market for a separator today, drop us a line so that we can send you full information about this high grade machine. It may save you money.

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WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

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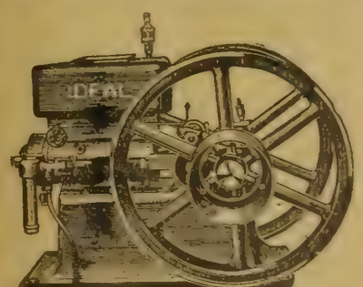

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A. McCAUSLAND, Victoria Hotel, St. John, N. B., Maritime Representative

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

SPRING.

Jean Blewell.

Oh, the frozen valley and frozen hill
make a coffin wide and deep,
And the dead river lies, all its laughter stilled within it, fast asleep.

The trees that have played with the merry thing, and frightened its breast with leaves,
Give never a murmur or sigh of woe—they are dead—no dead thing grieves.

No carol of love from a song-bird's throat; the world lies naked and still,
For all things tender, and all things sweet, have been touched by the gruesome chill.

Not a flower—a blue forget-me-not, a wild rose, or jasmine soft—
To lay its bloom on the dead river's lips, that have kissed them all so oft.

But look! a ladder is spanning the space 'twixt earth and the sky beyond,
A ladder of gold for the Maid of Grace—the strong, the subtle, the fond!

Spring, with a mantle made of the gold held close in a sunbeam's heart,
Thrown over her shoulders bonnie and bare—see the sap in the great trees start!

Where the hem of this bowing garment trails, see the glow, the colour bright,
A stirring, and spreading of something fair—the dawn is chasing the night!

Spring, with all love and all dear delights pulsing in every vein,
The old earth knows her, and thrills to her touch, as she claims her own again.

Spring, with the hyacinths filling her lap and violet seeds in her hair,
With the crocus hiding its satin head in her bosom warm and fair;

Spring, with the daffodils at her feet and pansies abloom in her eyes;
Spring, with enough of God in herself to make the dead arise!

For see, as she bends o'er the coffin deep—the frozen valley and hill—
The dead river stirs,—ah, that lingering kiss is making its heart to thrill.

And then as she closer and closer leans, it slips from its snowy shroud,
Frightened a moment, then rushing away, calling and laughing aloud!
The hill where she rested is all a-bloom, the wood is green as of old,
And wakened birds are striving to send their songs to the Gates of Gold.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
BOX 309 WINDSOR, Ontario

WOMENS INSTITUTES IN CANADA

The following article written by The Viscountess Wolseley and published in the January, 1916, number of "THE ENGLISHWOMAN" will be of great interest to Women's Institute members who read this page.

"In considering the Women's Institutes, which in Ontario alone possess nearly twenty-five thousand members from amongst eight hundred and forty-three branches, it must be confessed that in energy, perseverance, and a true grasp of the requirements necessary to stem the rural exodus, Canada has far surpassed the Motherland. Her women are giving the best thought and many hours of work, not only to remedying weakness that already exist, but, like true pioneers, they are looking in the future. They see before them additional difficulties when the Great War is ended; they know that then many conditions will alter, more women will have to earn a living, fewer men will be there to work, a large number of strangers will go to live in Canada, and therefore they must now safeguard their country, keeping it Canadian and British, remembering always that unity is strength.

"They are not leaving these questions to settle themselves or postponing work that they hope to complete; they long ago laid a solid foundation, and it is only necessary now for them, during these anxious months of waiting, to add propelling force to machinery which is already in existence. It is, I feel sure, a mere question of making their work known, of pointing out how necessary it is for us to copy so brilliant an example, and the daughters of England will rise up and follow upon similar lines in an endeavor to improve social and educational matters in rural districts.

Very far-reaching is the influence exercised by women, for only in so far as a country reverences its womanhood does it attain permanent greatness. If its ideal type of woman is a high one, morals are pure and a noble standard of conduct is the result. We hear how the women of Germany are at the moment, fired by patriotism and a sense of dangers that surround their Fatherland, strenuously undertaking munition work, tilling the land, bringing in the harvest, studying economy in their homes. All this is fine work that they have carried on since the outbreak of war, and, owing to the strong leadership they are given, the detailed plans of their exceptional Government organization, they have merely to obey orders and carry out, with industry, what they are told to do. We cannot fail to confess admiration for this regulated and well-ordered effort of our enemy, but is there not all the same a lack in them of higher, nobler influences?

"If we want proof of how much diplomatic negotiations may be influenced by women, we have only to turn to Bismarck's Memoirs, where we find irritation expressed at the milk measures so continually thrust in the way of this exceptionally strong man, owing to views that were urged by those whom he called "politicians in petticoats." Again, whilst the Siege of Paris was in progress in 1870, when it became dangerously protracted as regards eventual success for Germany, and Bismarck recommended that bombardment should take the place of siege in order to hasten victory, the Empress Augusta and her Court ladies exercised their powers of persuasion to frustrate his wishes. We are told, "The secret of it all is that the Empress with ideas that she has got from England, cant ideas as to "humanity" and "civilization," prevents us from carrying through our military measures as we ought to."

"These facts, coupled with the deplorable cruelty shown by Germans in the present war, show plainly how quickly a nation's culture and civilisation may revert to barbarism unless care is exercised in spreading high standards and lessons of humanity amongst the young. In order to influence character and increase noble ideals amongst boys and girls, it seems all-important that both men and women should work together upon Educational Committees and in those assemblies that are concerned with what they share together in public life.

"We women, on the other hand, fully appreciate how many things there are that a man alone can do, but so candid, an acknowledgement does not prevent the certainty that in the discussion of most public questions concerning men and women workers, more especially those that deal with education, women should be, and in many cases are, welcomed by men, for the views of both are essential to a just and wise decision. There is one thing that a man cannot make for himself, and that is a home; and here, again, in all that bears upon the family, its upbringing, food, clothing, housing and social conditions, it is the woman who bears the heavier burden, and therefore she can best help decide about such matters.

"The women of Canada have, for a long time, been in the forefront of advancement and probably they owe much of their claim, non-hysterical way of dealing with public questions to the teaching of Mme. Peltrie and others, who, sacrificing their happy homes, gave up all to go out to Canada in order to train and educate young settlers of the colony. The forethought and resourcefulness of these pioneers were transmitted to those who followed after, and these qualities, together with simple social conditions that prevail where people live by the work of hands and brains, free from over-engrossing distractions that luxury brings in its train, have helped to evolve modern Canadian women.

"Marked progress was made by them about fifty years ago, when to the astonishment of their less go-ahead sisters in England, they started a Women's Club in New York City, where discussion of all public questions could take place. Long after this, the foundation of the Women's Institutes was laid, and broadly speaking they form in rural districts a meeting-place somewhat similar to town or suburban clubs, where women of all spheres of life unite for instruction, friendly discussion, or recreation. I shall endeavour to give an account of their origin, the aims that were at first kept in view, how these have expanded to such a degree that they now have created far-reaching national results. Although social conditions and intercourse between people who belong to different spheres of life are mistakenly complicated in an old country like England, hopeful signs are now evident that improvement and simplications of these conditions are likely to take place, and therefore much, that this Canadian work has brought about, could doubtless be copied and utilised by us. How it can be done, and which of our many energetic women will best carry out the scheme, can alone be decided when we know the full value of what is progressing in Canada.

"A great organization often has but a humble commencement and this was the case with Women's Institutes. As recently as 1897, a small band of women met in a village and, under

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ELDERLY WOMEN SAFEGUARDED

Tell Others How They Were Carried Safely Through Change of Life.

Durand, Wis.—"I am the mother of fourteen children and I owe my life to Lydia E. Pinkham's Vegetable Compound. When I was 45 and had the Change of Life, a friend recommended it and it gave me such relief from my bad feelings that I took several bottles. I am now well and healthy and recommend your Compound to other ladies." —Mrs. MARY RIDGWAY, Durand, Wis.

A Massachusetts Woman Writes:

Blackstone, Mass.—"My troubles were from my age, and I felt awfully sick for three years. I had hot flashes often and frequently suffered from pains. I took Lydia E. Pinkham's Vegetable Compound and now am well." —Mrs. PIERRE COURNOYER, Box 239, Blackstone, Mass.

Such warning symptoms as sense of suffocation, hot flashes, headaches, backaches, dread of impending evil, timidity, sounds in the ears, palpitation of the heart, sparks before the eyes, irregularities, constipation, variable appetite, weakness and dizziness, should be heeded by middle-aged women. Lydia E. Pinkham's Vegetable Compound has carried many women safely through this crisis.

NEEDS NO PAINTING

Amatite stands alone in the ready roofing world. It is the one roofing you don't have to paint. Once laid, it will last for years without any attention from you. For sidings and steep roofs it is supreme. If you could only see how it is made—see the tough, fibrous felt, the dense, non-volatile saturating compound that keeps it water-tight, you would understand our claims. Try some.

A Roofing Triumph

The durability of Amatite is only one of its five points. The same structural feature which makes it unnecessary to paint Amatite, gives it a distinctive and beautiful appearance. We refer to its sparkling, mineral surface. Improves the appearance of any building. The best buy in the ready roofing market.

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Sydney, N. S.

direction of one of their number, it was arranged that they should hold monthly meetings in order to discuss household affairs, exchange cooking recipes and mutally help each other by giving advice upon domestic matters. From this sprang a network of branches, and in Ontario along the result has been that some thirty thousand women and girls are closely connected with the work, because twenty-four thousand homes are represented by one member from each, and besides these, every household has several women belonging to it, who although they are not members, may attend meetings. Having commenced in Ontario and made rapid progress there, the work gradually spread to other Provinces, and in some of these the branches are known as 'Home-makers Clubs.'"

Teachers and organizers trained in Ontario are now to be found carrying on the work in distant Provinces, each one of which is represented, and knowledge of it is further extended by classes and demonstrations that are given for the benefit of young women and girls, who are not necessarily members, but who often become so much interested that they eventually join the Institutes.

"A very considerable degree of success has been obtained as follows:

1. "The origin was humble, but the scheme being well laid and its supporters industrious and active, the work has increased steadily.

2. "The Governments of the Provinces give liberal financial support, and hold out every encouragement to this splendid organization; besides this, the Department of Education lends books of fiction, instruction, and biography to the Institutes by means of Travelling Libraries. Great stress should be laid upon the advantages to be obtained from Government assistance, for so often admirably planned schemes fall to the ground because voluntary workers have not sufficient capital with which to support them for any length of time. There is a central organization of rural Women's Institutes in almost every Province of Canada supported by the Department of Agriculture, and, in the case of two Provinces, by the Provincial Universities. This central organization arranges for branch Women's Institutes in all parts of each Province, with especial success in rural communities. The branch Women's Institutes, once well started, manage their own affairs, and do what work seems to their members best suited to their locality, with due regard to certain general principles and procedure defined by the Rules and Regulations. They are registered by the Department of Agriculture and receive certain money grants and assistance for which they comply with the requirements of the Acts of Parliament under which they are registered. Although there must necessarily therefore be official supervision in some measure, there is not too strenuously enforced, because the Government realize that the life of such an organization must depend upon its adaptability to local conditions, and they allow the Institutes to work out their own plans provided the money is spent in line with aims and objects. Generally speaking, the central organization of the Department of Agriculture, whether it consists of an Advisory Board or of certain officers of the Department, provides literature, some assistance in money, arranges for demonstrators and lecturers for Branch meetings, pays a fee to Branch Secretaries, supplies stationery, drafts rules and regulations, co-operates in educational, agricultural, exhibition and other work, and is ready at all times to give advice and help to the Branch Secretaries. In this way a sympathetic connection is established with the Department of Agriculture or the University Schools of Agriculture and Home Economics.

3. "Women's Institutes do not work in a narrow grove. The wonderful thing about them is that rich and poor mingle together and work in perfect harmony; people from town and country, those who belong to all creeds and denominations, are brought together. Many who formerly interested themselves in some small Church aid work, have become members in order to avail themselves of a wider scope of helpfulness. By co-operating with Farmers' Institute and Farmers' Clubs, all social gatherings, debates, and entertainments become more effective, and a wider outlook is obtained. The Farmers' Institute represents all connected with food-production, and the Women's Institute bears upon the welfare of people in those matters which concern both old and young women, and so it will be seen that the combination of the two classes of work covers much which concerns rural life.

"Having in early days only embraced cooking, housework, the physical welfare of the child, sanitation, and those things that are included in rbinging up a family, the Women's Institutes have now adopted 'Home and Country' as their motto, and include in their discussions questions which relate to community improvement and nation building. They started with those things which bear upon the child and its growing days, and now they form a propelling force not only to boys and girls, but also to men and women.

This Washer
Must Pay For Itself

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

Our "GRAVITY" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six Minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work [illegible] as a strong woman, and it [illegible] fray the edges nor break buttons, the way all other [illegible]

It just drives soapy water [illegible] the clothes like a force [illegible]

[illegible] do with my "1900 Gravity" [illegible]

[illegible] first, and I'll make good the [illegible]

Let me send you a "1900 Gravity" Washer on a [illegible] the free use of my own pocket, [illegible] want that [illegible] take it back [illegible]

[illegible] "1900 Gravity" Washer must be a [illegible]

And you can pay me out of what it saves you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will [illegible] over [illegible] If you keep the [illegible] let you pay for it out of what it saves you. If [illegible] cheerfully, and I'll wait for my money until the machine [illegible]

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

State whether you prefer a washer to operate by Hand, Engine Power, Water or Electric Motor. Our "1900" line is very complete and cannot be fully described in a single booklet.

Address me personally, S. F. MORRIS, Mgr.,
Nineteen Hundred Washer Co., 357 Yonge St., Toronto, Ont.,

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LARVAECIDE Will Do This Surely—Quickly

Destroys Wire Worms, Slugs, Cabbage Worm, Cabbage Maggot, Onion Maggot, Potato Bugs, Cut Worms, Leather Jacket, Centepedes, White Grubs.

LARVAECIDE IS NOT AN EXPERIMENT—IT IS A PROVED ANTI-GRUB AGENT.

It must be thoroughly mixed in the soil.—Must not come in contact with growing plants.

SCORES OF UNSOLICITED TESTIMONIALS

Not only will Larvaecide destroy insect pests but it will positively prevent club foot. So says Mr. Geo. Newcombe of Hopewill Hill.

Larvaecide is for sale by leading dealers everywhere in the Maritime Provinces.

For Booklet and full particulars write

LARVAECIDE MANUFACTURING COMPANY
Head Office 102 Prince William St., St. John, N. B.

Had Pneumonia

DR. WOOD'S NORWAY PINE SYRUP CURED HIM.

A cough is an early symptom of pneumonia. It is at first frequent and hacking, and is accompanied with a little tough, colorless expectoration, which soon, however, becomes more copious and of a rusty red color, the lungs become congested and the bronchial tubes filled with phlegm making it hard for the sufferer to breathe. Males are more commonly attacked than females, and a previous attack seems to give a special liability to another.

On the first sign of a cold or cough you should get a bottle of Dr. Wood's Norway Pine Syrup and thus prevent the cold from developing into some serious lung trouble.

Mrs. E. Charles, North Toronto, Ont., writes: "Two years ago my husband had a very bad attack of pneumonia, and the doctors said he was getting consumption. A friend came in to see me and told me to get Dr. Wood's Norway Pine Syrup. I got three bottles, and they seemed to quite clear his chest of the phlegm, and now he is fine and well.

I shall never be without it in the house as it is a very valuable medicine."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper; three pine trees the trade mark; price 25c. and 50c.

The genuine is manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

At their meetings, all public questions such as Civic Improvement, School Inspection, the laws and by-laws which regulate the morals and welfare of the community are discussed. These are naturally of intense interest to the mother of a family, because their eventual development must affect her children and their future families. Likewise, when the material prosperity of boys and girls, men and women, together with their mental and moral welfare is established, there can be no fear of agricultural depression, because workers will remain happily in their country homes instead of drifting towards the towns, and this is what the Women's Institutes have prevented.

"Let us now see how they achieve still more by means of co-operation. They are helping the intellectual life of the rural districts by making country life more attractive to young men and women, thus retaining those who can cultivate land and ensure a good food supply. Where there is lack of cultivation there is scarcity of food, and this is one of many dangers that the Rural Exodus brings about.

"A few rules and regulations exist, but red-tape does not prevent invididual development and scope for invention. Thus each village or small town community can spend the accumulated subscriptions of its members upon anything that will add to the general welfare of the neighborhood. Some may commence with a room or building to be used for meetings, not only those held for the Women's Institute, but others as well. Whatever is paid by other societies for the hire of this room goes towards future purchases of chairs, tables, books, or newspapers, a piano, or any other things that will make it a comfortable club for women. For instance, we read of a hall and four adjoining rooms having been rented, and that it was possible also with the subscriptions (which it must be remembered come from rich and poor alike) to arrange for a woman to act as matron. She lived on the premises, and was able to see to the lighting and keep it comfortable and warm for the use of members. On weekdays it was open from 9 a. m. until 10.30 p. m.; and on Sundays for a shorter time. Each member was asked to contribute one piece of furniture, and so gradually it was made home-like, and rugs, pictures, a writing-desk, sewing-machine, piano, and many other things were procured. People in larger houses sent their papers down in the afternoon, and other literature was provided by Government.

"One of the problems of country life is how to keep young people amused; a village hall is a great help in making them satisfied with their quiet surroundings. Concerts can be given, and old folk-songs revived; then, too, demonstration lectures upon food values, cooking and sewing are so easily arranged for, if there is a room available. In England we are only now commencing this work of instruction in domestic science, and until we can teach people to help themselves, and inspire women with a wish to make a real study—a profession, in short—of housekeeping, we shall continue to have a dearth of good plain cooks, which becomes increasingly noticeable each year. Lady Chance, the principal organizer of the National Food Economy League, a society which was started in London at the outbreak of war, has been endeavouring to remedy this. She is publishing admirable booklets, to be obtained for 1d each, in which are given recipes for simple dishes, suggestions for utilizing vegetables, and hints as to how waste can be avoided. If this society had for its support some local organizations similar to the Women's Institutes it would make rapid progress, but often those who have been anxious to make use of its instructors and have demonstrations are prevented by lack of suitable village accommodation or scarcity of funds.

"Whenever information can be supplied which bears upon the practical

Took Friend's Advice And Got Results

HOW M. C. LINDOS FOUND A CURE IN DODD'S KIDNEY PILLS

One of the Reasons Why Dodd's Kidney Pills Have Had a Phenomenal Growth of Popularity in the West.

Ellscott, Alta., April 5th—(Special.)—The growth of popularity of Dodd's Kidney Pills in this section of the Great West has been phenomenal. They cure kidney disease. That much has been proved again and again. One of the latest proofs comes from M. C. Lindos, well known and highly respected here.

"Thanking Dodd's Kidney Pills seems a small way of expressing my gratitude." M. C. Lindos states. "I suffered from headaches and dizziness and was unable to find anything that would do me any good. I tried several medicines that were advertised to cure my trouble, but they did not.

"Dodd's Kidney Pills were recommended to me by a friend and I sent for a box and gave them a trial. The result is that I am feeling fine now. I shall always keep a box of Dodd's Kidney Pills handy."

Dodd's Kidney Pills cured M. C. Lindos because the trouble came from the kidneys. Lumbago, rheumatism, dropsy, heart disease, diabetes and Bright's Disease are other troubles that come from sick kidneys. To cure them cure the kidneys with Dodd's Kidney Pills.

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You'll Like the Flavor

QUICK ACTION

and an absolute freedom from impurities are necessary in the lubricant used for hand separators.

Standard Hand Separator Oil

has all the properties to make it the best lubricating oil for the purpose. It IS the best. Manufactured especially for use on the close-fitting bearings and delicate mechanism of hand separators, it not only gives perfect lubrication, but protects the separator from seam rust and corrosion.

Put up in cans of 1 pint to 4 gallons. Sold everywhere by reliable dealers.

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BRANCH STATIONS THROUGHOUT CANADA

Wilson's INVALIDS' PORT

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Sold on Merit for over 25 years.

Absolutely no Alcohol is added.

BIG BOTTLE ASK YOUR DOCTOR ALL DRUGGISTS

11

GOOD DIGESTION

When your digestion is faulty, weakness and pain are certain and disease is invited.

Mother Seigel's Syrup corrects and strengthens the digestive organs, and banishes the many elements which arise from indigestion.

FOR 40 YEARS THE STANDARD REMEDY

MOTHER SEIGEL'S SYRUP

FOR STOMACH AND LIVER TROUBLE

At all Druggists, or direct on receipt of price, 50c. and $1.00. The large bottle contains three times as much as the smaller. A. J. WHITE & CO. LIMITED, Craig Street West Montreal.

INSTEAD OF PAINT

DON'T paint your pretty home this season, but use instead Velvex Creosote Shingle Stains. By so doing, you can bring out all the beauty of the wood. And think of the preservative value. Velvex Shingle Stains contain Creosote, the greatest wood preservative known. This means prolonged protection against wind and weather. It therefore means economy.

Velvex
Creosote Shingle Stains
Half the Cost — Twice the Wear

Velvex Creosote Shingle Stains cost about half as much as paint. And they wear much better because they penetrate the wood. They do not evaporate or dry out and of course they cannot peel off. These stains come in any color you want. They are very easily applied. You ought to investigate them. We have the complete line and we know you will like them.

Write us for a sample of wood stained with Velvex Creosote Shingle Stain.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

THE WINTER TERM
of the
Fredericton Business College
will open on
Monday, January 8th, 1917

Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

Address,

W. J. OSBORNE, Principal
Fredericton, N. B.

Concrete Machinery for Farm Use
(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself

Also Crushers, Brick, Block, Tile Machines, Mixers, etc. New and Second Hand Gas. Engines. Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO. Dartmouth, N.S

A Village Farm, $1500
In Southern New Hampshire

65 acres fertile soil; attractive 8-room house with water at sink, pretty lawn and sweeping outlook; 50-ft. barn, painted and in good condition; poultry house; 50 apple trees. Owner needs cash in other business, making here a chance of a lifetime for one who can quickly take advantage of it. For travelling instructions see page 8, "Our New Spring Catalogue," just out, copy mailed free. E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.

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MRS. M. SUMMERS, Box 309
Windsor, Ont.

side of life, it is so helpful, for it means that the last and best word of experts is brought within reach of country cottages. We know that in farmnig and gardening, if the best methods and the latest theories are followed there is a gain of increased production. In the same way that this applies to a greater yield of wheat or a larger supply of live stock, so does it help women in their housekeeping if they are directed as to labour-saving methods, have information as to food values, rules of health, comparative values of wearing apparel brought clearly to their knowledge. This need not be done in a dull, dry way, but if the lecturers are well selected, and add a spice of fun or humour to what they say, many will be glad, after a long day's work, to walk across the village street, or even come from distant farms through moonlight fields, to sit in a warm, bright village hall and join in the interest of discussion. Those women of our upper classes who spend, perhaps, only week-ends in the country, or who pass a few months in a large house which they frequent during a fixed time of year for hunting or shooting, can hardly realize the loneliness of life on a farm or in a cottage. The farmer and the working man have interests outside the home; they have friends who they can walk over to smoke a pipe with, or a village club, where they can read the papers after work hours; but for womenfolk no amusements are provided. Upon them falls the daily task, which often from its sameness grows monotonous, of providing food and cooking it; then there is jam-making, perhaps break-baking, and the weekly wash-day. But is there any fun to be had withing going as far as the neighbouring town to see the cinema? Is there much beyond Sunday's sermon from the pulpit to give food for though of things beyond the parish boundary line? There is nothing specially provided for the relaxation of these women, and it is because of this that so many young girls prefer to leave their homes and gain a wider swain, Harry the ploughman or Bill the carpenter, and so the countryside becomes depleted of its men and women.

"It is most natural that those who live surrounded by luxuries, such as electric light, telephones, carriages and motors, who have easy means of access to the best plays, concerts, and dances, who have brought to their doors all the latest ideas on music, literature, and science, do not understand the stagnation, the dreariness of country life, when all these means of communication are wanting—when the farmer's wife cannot even take her share in the affairs of the county or in educational matters. It is this social side, a personal element, far removed from politics or pettiness of party gains, that the women of Canada have helped so much. They know that a single unit can accomplish but little, so by means of co-ordinated work, the combined assistance of all towards some one specific object, they accomplish things that surprise by their importance. Sometimes a village President gives a tea-party to show off the beauties of her garden, and a small entrance fee being charged to all who attend, it is possible to collect money to help an invalid child, or, if local benefits are desirable, then a swimming-bath and dressing-rooms are built, or a sewing contest for girls, with prizes, is organized, a public library is started, or singing classes, with a choral leader, to stimulate music in the village, are undertaken. These are only a few of many ideas that we read of as having been successfully carried out by means of co-operative effort. One very favourite form of contribution towards the life of the community is a public garden, planted with trees, gay with flower-beds, and having shadowy, sheltered nooks for seats, children's playgrounds, and tables and chairs for picnic parties.

"I am told that wonderful moral forces have been brought out by this unity of rich and poor, old and young women, people of all beliefs and ideas. Petty jealousy has vanished, narrowness of thought, severity of judgment have disappeared, and charitable, broadminded views are disseminated. Much depends upon the selection of office-bearers and, of course, choice of a suitable President is particularly important. She must, amongst other qualities, possess that one

(Continued on page 372)

RENNIE'S SURE CROP
High Grade Tested Seeds

Rennie's Market Garden Table Carrot....Pkg. 10c, oz. 25c, 4 oz. 75c, lb. $2.25.
Cardinal Globe Table Beet....Pkg. 10c, oz. 20c, 4 oz. 50c, lb. $1.50
Glory Enkhuizen Cabbage(hard head) .Pkg. 5c, oz. 30c, 4 ozs. $1.00
Rennie's Spinach Beet (for table greens)..Pkg. 10c, oz. 30c, 4 ozs. 90c.
Stringless Refugee Wax (Butter) Beans .....4 oz. 15c, lb. 50c, 5 lbs. $2.25.
Rennie's XXX Early Table Corn (sweetest).....Pkg. 10c, lb. 40c, 5 lbs. $1.90.
Davis Perfect Cucumber, for table or pickles.....Pkg. 5c, oz. 20c, 4 ozs. 50c.
XXX Pink Skin Tomato, solid fruit, big cropper..Pkg. 15c, ½ oz. 35c, oz. 60c.
Mammoth Green Squash, specimen 403 lbs. weight, Pkg. 10 seeds 25c.
XXX Scarlet Round Radish (white tipped) .Pkg. 10c, oz. 20c, 4 ozs. 50c.
Quaker Pie Pumpkin, popular for pies.Pkg. 10c, oz. 25c, 4 oz. 75c
Laxtonian Bush Table Peas, extra early...4 oz. 15c, lb. 45c, 5 lbs. $1.90.
Champion Moss Curled Parsley..Pkg. 5c, oz. 20c, 4 ozs. 50c, lb. $1.50.
Select Yellow Dutch Onion Setts.....lb. 35c, 5 lbs. $1.70
Rennie's Selected Yellow Globe Danvers Onion (black seed Pkg. 5c, oz. 25c.
Extra Early Red Onion (black seed).....Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.10.
Select Nonpareil Lettuce, large heads.Pkg. 5c, oz. 20c, 4 ozs. 60c
Giant White Feeding Sugar Beet, for stock.....4 ozs. 15c, ½ lb. 25c, lb. 45c.
Rennie's Prize Swedefor table or stock.4 ozs. 20c, ½ lb. 35c, lb. 65c
XXX Climbing Mixture, Nasturtiums....Pkg. 10c, oz. 20c, 4 ozs. 50c.
Sweet Mignonette, fragrant, large flowers..Pkg. 5c, oz. 25c
Giant Trimardeau Pansy, all colors mixed.Pkg. 10c, ⅛ oz. 40c
Spencer Choice Mixed Sweet Peas.....Pkg. 10c, oz. 30c, 4 ozs. 90c, lb. $3.00.

"Pakro" Seedtape. "You plant it by the yard." 2 pkts. for 25c. Ask for descriptive list.
Rennie's Seed Annual Free to All. Delivery Free in Canada.
Order through your LOCAL DEALER or direct from

RENNIE'S SEEDS Wm. RENNIE Co., Limited
190 McGill Street, MONTREAL
ALSO AT TORONTO WINNIPEG VANCOUVER

No more Dyspepsia for Us!

There isn't a member of the family need suffer from indigestion, sick headaches, biliousness, fermented stomach, etc., if he or she will take Chamberlain's Tablets. They cleanse the stomach and bowels and stimulate the liver to healthy activity and tone up the whole system. Take one at night and you're RIGHT in the morning.

All druggists, 25c, or by mail from Chamberlain Medicine Company, Toronto. 16

CHAMBERLAIN'S TABLETS

SORE THROAT AND TONSILLITIS

The ordinary sore throat is not a true disease, but rather a symptom of some derangement of the body. Usually the throat means that portion located between the angle of the jaw and the collar bone. This portion of the passage is lined with many kinds of ducts and glands, whose function it is to supply many needed ferments. It contains the salivary glands that give off a dgiestive ferment which becomes mixed with the food in the process of chewing. The next most important structure are the tonsils, which are noted for their ability to become infected. In the process of eating these glands and tissues are brought into close contact with infections, by the pressure of swallowing the food. Other sources of danger of infection are from the dust in the air and the hundred-and-one things which get into our mouths through carelessness and bad habits. Children especially misuse their mouths by putting any and everything into them, and especially do they loll and chew their fingers. Most of us have witnessed a parent—or have been guilty ourselves—of picking food or candy from the floor, after it was moist from saliva, and consequently would easily become covered with germs, and giving it to the baby. How often do grown-ups go to the table with unwashed hands, regardless of what germs may be taken with the food? Moistening the pencil point and touching the thumb to the tongue to turn a page are loosing cast, but it is a common habit of persons who think themselves very hygienic, to hold in the mouth such things as pins, pencils, hairpins, hatpins, strings, nails—in fact, anything and everything may go into the mouth. Everyone of these things are covered with germs of the worst infection, and while these are little things in themselves, they expose you to infections and sickness which might have been avoided. Nor do these habits add to one's refinements, but rather tend to corrupt the aesthetic nature. As evidence of how important these little things really are, I recently saw a book-keeper who had developed arsenic poisoning from wetting his finger on his tongue to turn the pages of the ledger. Of course, this kind of poisoning does not kill immediately, but produces nerve and muscle changes which torment the victim, just as do the little infections of the throat produce pains and aches in distant parts of the body. Trades-poisoning from breathing dusts in the factories are very common in the industries, and while few of my readers may suffer in this way, it would be well for those who have orchards, and who spray their trees, to beware, lest they suffer injury.

Probably the best known of all the tissues of this section are the tonsils. Located on each side of the throat they are in good position to receive the infecting germs, as they pass during the act of swallowing food. Unfortunately they do not destroy these germs, but rather, owing to their spongy formation of tissue, they afford protection for them. The tonsil is very cellular in structure, having one or two dozen little crypts or tubes leading deep into the gland.

Once the germs find lodgment in these crypts, it is impossible to get them out by disinfecting solutions, because the medicines which will destroy the tissues are not sufficiently strong to destroy the germs, so that the cure becomes worse than the disease, and by irritation of the parts the germ growth is intensified. It is in these pit-like openings that the infection remains long after the disease has seemingly disappeared. These pockets in the tonsils protect the germs in persons know as "carriers"—that is, persons who spread disease, but are not sick with it. This is especially true of diphtheria, and the diphtheria germs often remain in the throat for long periods of time after recovery from the disease.

But all attacks of sore throat do not involve the tonsils, nor are all of them of microbic origin. Some are not catching in the beginning of the attack, but the germs soon find a good foothold in the inflamed tissue, and complications arise. People who are rheumatic in tendency are subject to sore throat, and for want of a better name it is called rheumatic sore throat. It is usually found in people who live high and get little fresh air and exercise. This sore throat is not catching, although almost every other inflammation of the throat is contagious, and especially those of early childhood. The dangers of contagion in these throat affections are difficult to avoid, because they are scattered about by handkerchiefs, coughing, spitting, blowing the nose, and from the particles of saliva which are expelled from the mouth during conversation.

Repeated attacks of tonsillitis thicken the tissue, and the tonsil soon becomes large and fibrous. The natural pores and openings in them become large and twisted, so as to make a better harbor for germs, and this is intensified with each cold, going from bad to worse, until the tonsils actually destroy the health. I have seen many instances where removing the tonsils made a new person of the victim. However, I cannot subscribe to the general slaughter of all tonsils. While there is no known good derived from them, we are not justified in removing them without cause.—(Julian Clarke, M. D. in N. E. Farm and Home.

MADE IN CANADA

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION
RUBBER SYSTEM
AND ASSOCIATED COMPANIES

MADE IN CANADA

All Roads Are Dry and Clean to Those Who Wear Our Rubber Footwear

¶ The extravagance of exposing good shoe leather to springtime mud and slush is magnified by present shoe prices.

¶ The discomfort of soggy, soaking feet, day after day, leads straight to the deeper discomfort and lurking danger of colds—and coughs—and worse.

¶ The safe, sensible, economical thing to do is to wear rubbers, rubber boots or rubber farm shoes that bear one of these Trade Marks:

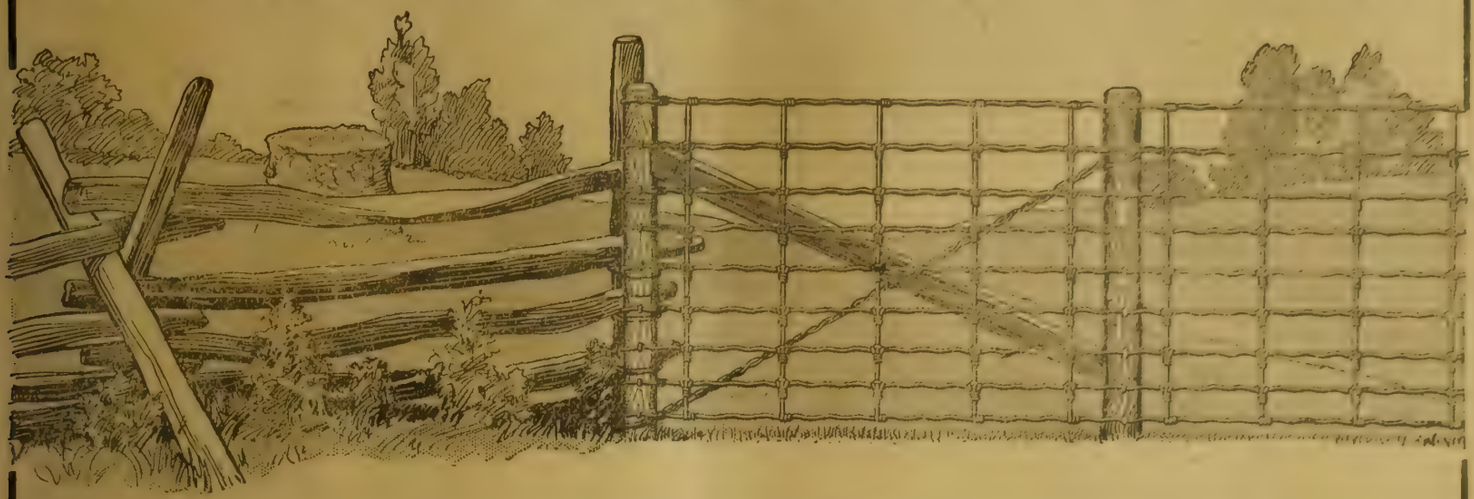
"MERCHANTS" "DOMINION" "JACQUES CARTIER" "GRANBY" "DAISY" "MAPLE LEAF"

Canadian Consolidated Rubber Co.
LIMITED
Largest Manufacturers of Rubber Goods in the British Empire
EXECUTIVE OFFICES - MONTREAL, P.Q.
SEVEN LARGE, UP-TO-DATE MANUFACTURING PLANTS IN CANADA
28 "SERVICE" BRANCHES AND WAREHOUSES THROUGHOUT CANADA

42

MADE IN CANADA

Let FROST FENCE Replace Your Rail Fences



EVEN yet, one sees a great many old rail fences throughout the country. These old-style "snake" fences right at the present time use up hundreds and hundreds of acres of ground, which might otherwise be put to good use.

JUST examine carefully the above picture, and do you not wonder how it is possible that these rail fences are still throughout the country, when neat, land-saving and substantial wire fences can be erected for such a reasonable amount. If, on your farm, you have any fields not fenced in the improved way, will you not consider seriously the question of putting up a nice wire fence?

FROST FENCE FIRST

YOU will notice the illustration of the FROST HOLD-TIGHT LOCK. This is the binding or lock used where stay wires cross laterals. This lock is much superior to any other woven fence lock, and holds securely without kinking the lateral of running wire, thus weakening it. There is only a slight kink in the stay wire, and the general appearance is as neat as could possibly be wished for.

The FROST "hold-tight lock"

If you have not examined this lock closely, we will be very glad to send you sample, so that you may put it to some good hard tests.

FROST FENCE is all completely made in our own mills. We are responsible for it from beginning to end, and when we tell you that there is quality in the wire and the workmanship we are entirely responsible.

You will find a made-up fence just as neat in appearance as shown in the above illustration, and the lasting qualities are there also, in fact, FROST FENCE will stand wear and tear that would rip other makes to pieces.

We have a full line, not only of woven wire fences, but all wire products, as well as farm gates and ornamental gates; also fancy fences made from woven wire or angle iron. If you do not know a near-by agent, kindly get in touch with us direct.

FROST STEEL AND WIRE COMPANY, LIMITED

Hamilton - Canada

68

TEN HEALTH HINTS

"1. Eat plain, wholesome food and eat slowly. The more your teeth work the less your stomach works.

"2. Drink at least six glasses of pure water each day. If you are in doubt about the water being good, boil it.

"3. Get enough sleep. The average adult should have not less than eight hours sleep in a well ventilated room. Don't sleep in clothing that has been worn during the day.

"4. Clean your teeth twice a day with a stiff brush. If your teeth are decayed, go to a dentist. Money spent in this way is well invested.

"5. Frequent baths with soap and warm water keep the skin clean and the body healthy.

"6. Always have one or more windows open day and night, winter and summer. Dirty air kills more people than dirty water, dirty milk and dirty food.

"7. If you are tired, it is rest that you need. Avoid whisky and other intoxicating drinks; they weaken both mind and body. If you need a stimulant, try hot coffee.

"8. Don't spit on floors, sidewalks, or in cars. Use the cuspidor.

"9. Do not use the public drinking cup. Disease is spread in this way, as you never know what disease others had who have used this same cup. The bubbling fountain is always safe.

"10. Don't neglect coughs or colds. If you do not recover as quickly as you should, see a doctor or go to a dispensary for advice or treatment."—Dr. W. A. Evans, in the Chicago Tribune.

WHAT CAUSES HEADACHES?

Most headaches come from improper foods, drinks, and eating too rapidly.

Others are the result of overstraining the eyes—of not wearing glasses when they are needed, or from bad mental habits, such as worry and indecision.

There is a cause for every headache. The cause for each case must be sought out.—Louisiana State Board of Health.

McLAUGHLIN CARRIAGES

are undoubtedly the highest grade Carriage ever put on the market by any manufacturers in Canada. Their policy—one grade only and that the best—is as firmly adhered to now as in the past.

We want Agents in all localities where the goods are not now sold. Perhaps you would like to act as our Agent.

If you would like to purchase one of our Carriages this season and there is no McLaughlin Agent near you, write to

H. A. AMOS, - - - Oxford, N. S.

General Agent for New Brunswick and Nova Scotia

WOMEN'S INSTITUTES IN CANADA

(Continued from page 369)

essential of those who guide others, a power by which the best that is in each worker is not only discovered, but increased.

"When the right President has been found, her first consideration will be, after she has appointed a working staff, to give each member of it some one work to direct. It is only by allowing workers responsibility, subservient always to a broad degree of discipline, that an interest in their special departments is created and maintained. In this way all activity will become both pleasant and profitable, as each member knows that she is answerable for the success of her special undertaking, and puts the whole strength of her ability into her work.

"In Canada, where social conditions are simpler than with us, it has been found advisable to bear in mind, in selecting office-bearers, that no one must be chosen because she is Mrs. So-and-So, but solely upon her own merits. It is only because she is clever, possesses energy or qualities of tactfulness, that she is asked to help officially. In this way no distinction of class or creed is permitted, and consequently all friction or trivial discussion is unheard-of.

"When women's meetings are first introduced into a village or small community, it is difficult sometimes to draw out the talent or personality which most assuredly lies hidden in each member. For this object a roll-call is used, and is printed on the programmes, giving thus an opportunity for each member, however shy she may be, to join in the meeting. Each is expected to respond either with a verse of poetry, a recipe or kitchen hint, as the case may be. In this way those who are retiring, and perhaps over-modest, are encouraged to express their opinions.

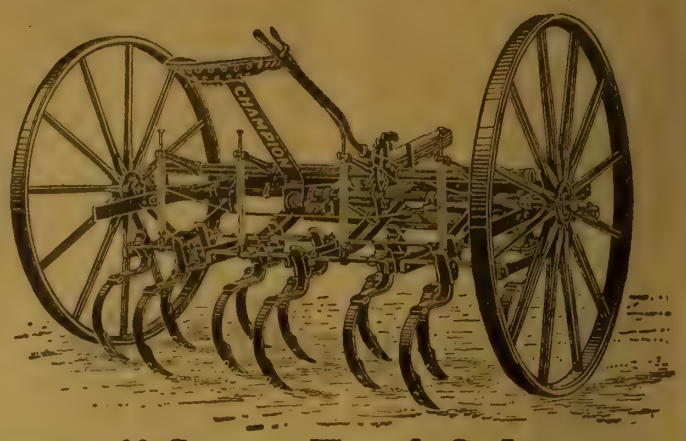
"Another important development which owes its progress to Women's Institute meetings is the interest given to agricultural and other local and home industries for women. Canada has many years been aptly called, 'The bread-basket' of the British Empire, and, in order to retain this reputation, she has this year to augment her efforts for increased food-production. Not only must she feed her own people and us, but she has to provide for those at the front. Her women enter with energy into all business transactions of the men, and consequently the wives of land-owners, farmers, growers, and producers follow each step that is now being taken vigorously to add to the yield of land. They know the full value of co-operation in agriculture, and appreciate much more than we do in England the assistance that is gives to growers. In one of the Institutes, women recently availed themselves of the generosity of the farmers, who allowed them to pick up all windfall apples in their orchards. At one of the old-fashioned 'paring bee' meetings the apples were peeled, and the result was that in one evening fifteen bushels were ready to be dried. The manager of a neighboring fruit factory generously offered to dry the fruit, and, given this incentive, the women managed in six evenings to pare six hundred bushels, which, when dried, were sent to the Belgians. This is a proof of what co-ordinated workers can do.

The above is only a brief outline of valuable progress that is being made across the waters to make country life assume the high position it should take in every country, and which women can effect so materially. Those who wish for further particulars will obtain them from the Agricultural Organization Society, Queen Anne's Chambers, To thill Street, Westminster, S.W., for its members are taking an active part in the movement for forming Women's Institutes in England. They have obtained the valuable assistance of Mrs. Watt, the Secretary of the Advisory Board of Women to the Department of Agriculture in British Columbia. Much of what I have described and a great deal more besides, was told in a lecture by this charming Canadian lady, and the moral of what she imparted is perhaps best found in the words of our King, who said, "The strength of the Empire lies in the homes of her people.'"

Mrs. Watts has met with great success in spreading Institutes throughout England, upwards of thirty having been organized up to October, 1916. In several instances the officers are titled ladies. Miss Morris, daughter of the poet-craftsman, William Morris, is the President of the Oxfordshire Institute. At the organization meeting of the Institute at Wallisdown, the first woman in the audience who spoke in favor of it did so because, as she said, "A Women's Institute in Sandy Bay, Ontario, was good to my boy when he was stationed there as a soldier and I should like to join one here." In writing of her experiences, Mrs. Watt says, "Greatest of all has

The Labor-Saving "CHAMPION"

This is one of the most popular of the Frost & Wood Cultivators. Its best friends are the farmers who give it the hardest work.



IT'S A PLEASURE TO USE IT

You know its going to do the work just as you want it done, without annoying delays for adjustments or repairs.

The Frost & Wood "Champion" Spring Tooth Cultivator

Helps you get a splendid seed bed with the least possible labor. Each spring tooth section works independently of the rest (so that uneven land is thoroughly cultivated) but all are controlled by one easily-worked pressure lever. Frame is of heavy steel, helper springs and teeth are extra fine-tempered spring steel; you can easily make it into a Broadcast Seeder, too, with grain and grass seed boxes, and get positive feed and splendid results.

For cultivating, we can supply both 2 inch and 7 inch points—the 7 inch make splendid thistle cutters. It's an immensely strong, light-draft implement that LASTS.

Write us for a Catalogue today, or drop into the nearest Frost & Wood agency and get intelligent advice on all your implement needs.

THE FROST & WOOD COMPANY, Limited,

Truro ST. JOHN Charlottetown

Your House Reflects Your Character

YOU are judged by the house you occupy as much as by the clothes you wear. An unpainted, shabby place, showing evidence of neglect, advertises the character of the owner and his family most unfavorably. It implies carelessness and a lack of self-respect.

If you have a proper pride in your home and the community in which you live, you will use

B-H "ENGLISH" PAINT

With the aid of this guaranteed paint you will have a really fine-looking home at a reasonable cost, which will be a credit to yourself and to your neighbors.

Properly painted, your residence will stand out among the many. Painted with B-H "English" Paint, it will remain for years as fresh looking as the day it was painted.

Have a talk with the merchant who handles B-H "English" Paint in your district. He will gladly supply you with color cards and prices.

BRANDRAM-HENDERSON

MONTREAL HALIFAX ST JOHN TORONTO WINNIPEG EDMONTON CALGARY

been the deep warm feeling of gratitude in English hearts to Canada. They are willing to shatter the old prejudices to try something "Canadian", and in so doing they are building up a new and better Empire."

SOME GOOD ADVICE FOR YOUNG MOTHERS

Twelve "Don'ts" Which if Obeyed Will Safeguard the Baby

1. DON'T give a baby a "pacifier" of any sort under any condition. It forms bad habits for the baby, spoils the shape of his mouth, causes indigestion, may cause growths of the nose, and throat, and, most important of all, it gives the child an unlimited opportunity to swallow all kinds of dirt and germs.

2. DON'T leave a baby in his carriage or anywhere else with his eyes unprotected from the glare of the sun. Direct sunlight is most injurious to a child's eyes. This should also be guarded against in wheeling a child on a sunny day.

3. DON'T lift a baby by his arms, or pull an older child up the steps or along beside you by one arm. An actual dislocation may be caused in this way, and there is always the danger of grave injury to the ligaments of the wrist and shoulder joints.

4. DON'T let a baby put anything in his mouth if you can possibly prevent his doing so, especially anything which he may have picked up from the floor. He may choke himself, and most certainly will get dirt and germs of all kinds into his system.

5. DON'T fasten an array of toys to the hood of a baby's coach so that they are constantly dangling in front of his eyes whether he wishes them there or not. Try it on yourself by fastening several bright objects in such a way that they are always in your line of vision, and you will soon see how intensely irritating to both the nervous system and eyes this practise must be.

6. Don't forget to give the baby plenty of pure, fresh water to drink. He craves it; it aids his digestion and supplies his tissues with the amount of fluid which is necessary to his health.

7. DON'T give the baby his toys again after they have fallen on the street or ground, until they have been thoroughly washed, as they are bound to have been in contact with dirt of all kinds.

8. DON'T be tempted or persuaded by any one else to give the baby a "taste" of anything outside of his regular diet. The most serious digestive disturbances very often result from just this thing.

9. DON'T lift a very young baby without first carefully supporting his head with your hand. The spine and muscles of the back are too weak to support the weight of the head without assistance.

10. DON'T have a child's bed in such a position that the early morning light shines in his eyes. This may cause headache and eyestrain, and wakes him earlier than necessary.

11. DON'T make your baby ride in a low go-cart or a carriage without proper springs, or jolt him up and down the curb by letting the carriage bump carelessly. Very severe injury to a child's spine may be caused in this way, to say nothing of the discomfort of a small care in which the poor little child cannot take a nap if he feels like it.

12. DON'T leave medicines around where children can get at them, especially harmful ones. Many children have been needlessly made very ill, and many little lives actually sacrificed, by carelessness of this sort.

Getting Rid of the Ashes

The fire in the human body is not unlike that in the furnace.

You cannot get a bright, hot fire until the ashes are removed. Neither can the vital organs of the body perform their functions while poisonous, waste matter remains in the system.

It is said that the human body generates each day within itself enough poisonous matter to kill the individual ten times over. had Nature not provided means for its prompt removal.

But the blood gathers up the waste matter—the ashes—and it is the special work of the kidneys to cleanse the blood of this poisonous material.

Since the liver, kidneys and bowels are intimately connected in this filtering and cleansing process, no one of these organs can fail without impairing the action of the others. For this reason the most satisfactory corrective treatment obtainable is Dr. Chase's Kidney-Liver Pills.

By their combined action on the liver, kidneys and bowels these pills relieve and cure liver complaint, biliousness, kidney derangements, backache and constipation. By awakening the activity of these organs you remove the cause of headaches and indigestion, the blood is purified and you feel fine.

One pill a dose, 25 cents a box, all dealers, or Edmanson, Bates & Co.. Limited Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

55

Dr. A. W. Chase's Kidney-Liver Pills

WHEN YOU ARE TIRED, QUIT

We repeat—when you're tired, quit. That doesn't mean, necessarily, quit work.

It means quit spending so much time in other ways that you don't get enough sleep to furnish you with the proper working energy.

You can, of course, keep going on black coffee and your nerves.

But whenever you spend more energy than you are getting, you're issuing checks against the bank balance of future health.

And as these checks are cashed the balance dwindles.

One "night" tonight must be repair in later life—with compound interest. —Wichita, (Kans.) Beacon.

SORE THROAT

Take no chances with a sore throat. Call in a doctor—it may be diphtheria.

If your child has a sore throat be sure to call in the doctor. Only a doctor can decide whether or not the case is one of diphtheria. If the doctor says that antitoxin should be used, see that this is done; it may save the child's life. In the days before we had antitoxin, one out of three children who had diphtherit died. Now, if antitoxin is used on the first or second day of the disease, ninety-eight out of every hundred children recover. The sooner diphtheria is attended to, the more certain is a cure.

A child should not be allowed to get out of bed until the doctor permits.

Diphtheria may affect the heart if the child gets up too soon.

Do these things and you will protect your own and other people's children.

The moth ball is not as sweet as the rose, but the perfume is more lasting.

MICA HELPS THE HAUL

Dry hubs strain
1. The horses
2. The harness
3. The wagon

MICA AXLE GREASE

helps all three factors in the haul.
It smooths the axle surface.
MICA is the important part of axle grease.

THE IMPERIAL OIL COMPANY Limited
BRANCHES THROUGHOUT CANADA

A WORD TO THE DAIRYMEN OF SUSSEX

(Continued from page 354)

We had the pleasure a few days ago of visiting the Scotsburn Creamery, the creamery that leads in point of output in the province of Nova Scotia.

Mr. Robert T. Stewart, the efficient manager showed us over the plant and explained the system under which the farmers of the Short Line co-operate in maintaining the van of Nova Scotia creameries. The summary of their business for the year ending December 31, 1916, is as follows:

Total cream supplied....1,027,342 lbs.
Total Butter Fat.....284,980.6 lbs.
Total Butter.....327,715 lbs.
Paid Patrons for cream.....$97,077.06
Overrun.....15 per cent.
Average monthly price for butter fat.....36 1-3 cents
Average price for the year..34¼ cents

The Annual Statements contains the following letter from Manager Stewart to the 592 patrons of the creamery:—

To Our Patrons

"You will find herewith the Annual Report of your cream accounts for 1916 showing your gross receipts from your herds, so far as you have sent cream to the factory.

"You will see the possibilities of your herds by referring to No. 224, where the gross receipts from his herd was $1178.08. If each patron supplied cream valued at one-half this amount, the returns to patrons would be $350,000, instead of $97,000. Thus you see that we have made only a start in cream production.

"In 1912, just five years ago, No. 224 was credited with $300. By cow-testing (which enabled him to select the best cows) coupled with feeding and care, the results of 1916 have been obtained. It might be difficult for each of our patrons to reach the amount reached by him last season, but we all could reach at least one-half this amount. Are we going to do it?

"We are glad and proud to be able to say that our creamery still leads the Maritime Provinces by a mile, in butter production. Our progress is a stimulus to others, and we must keep in the lead in order to maintain our reputation. We have the territory, and the MEN also, we believe, with sufficient enterprise to do it.

"We want more of our patrons to make provision for Winter Dairying, as there is more money in it, and it is the MONEY you want. Speak a kind word to your friends about the Creamery, and invite them to join you in sending their cream."

The herds supplying cream to the Scotsburn Creamery are not very large, but the average production is good. Some of them, heifers included, give an average return per head of over $100. The butter is sold to regular customers, who have been buying from Scotsburn since the creamery was first established.

Users of Scotsburn butter are unanimous in their verdict re the quality of the product, and it is summed up in the words, "Always the same".

The farmers of Scotsburn stand together for any movement that helps their industry and in community spirit.

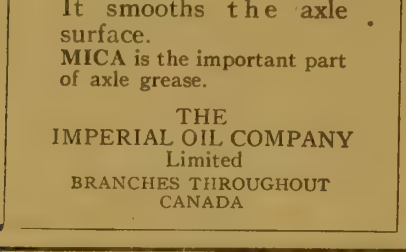
We believe it would be a good plan for the dairymen of Kings County to get together as the dairymen of Scotsburn have done. There are two good creameries at Sussex—one a private corporation, the other a farmers company. Both of these creameries could easily handle more than they do at present. The farmer who does not wish to co-operate with his fellow farmers, will find a ready market for his cream or milk, and safe and sure returns from the Maritime Dairy Co. The farmer of the co-operative class will receive like returns from the Sussex Cheese & Butter Co.

It is a well established fact that the selling of cream takes much less fertility away from the farm than does the selling of whole milk.

By patronizing the creameries the farmers will not be obliged to be on the roads at very early morning hours, nor yet at late evening hours, as is the case when milk is shipped to the city. The returns are as remunerative and always safe and sure.

The young stock will be better developed and more pork may be produced. Think it over.

SUMMER SHOES FOR MEN WHO WORK



Here is something new in footwear specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all those needing strong yet light, cool, easy shoes. These are made on good-fitting right and left lasts from our famous oil-tanned Skowhegan waterproof leather with waterproofed sole leather outsoles and solid insoles.

Palmer's "Moose Head Brand"
"SUMMER PACKS" and "HARVEST SHOES"

are light weight, comfortable, durable working shoes for spring, summer and fall wear. Sold by leading dealers everywhere. If your merchant does not carry them write us, giving his name and address, and we will see that they are placed within your reach. Made 4, 6 and 9 inches high. 19

JOHN PALMER COMPANY, LIMITED
Fredericton, N. B. - - Canada

THE CRUSHING OF OATS FOR WORK HORSES IS UNPROFITABLE

The practice of crushing or grinding oats for horses is increasing. The best authorities have for years contended that grinding oats for draft horses does not pay and if the meal is made too dusty or fine it may often be injurious.

However, the practice of rolling or crushing has largely replaced grinding in many districts. Many large city companies are now using crushed grain and report favorably as to its economy. Advocates of oat crushing claim great benefits therefrom, such as:

1. Increasing the percentage of digestibility of oats for horses on hard work and having little time for feeding.

2. Greedy feeders are made to eat more slowly.

3. Horses with bad teeth are assisted to digest the grain properly.

4. That twenty-five percent of grain fed whole is not digested and is lost in the manure unless crushing is adopted.

5 Proper crushing leaves the grain free from dust and fine meal.

6 Crushing exposes the grain more fully to the digestive juices, thus aiding digestion.

7. That crushing even at a considerable cost is profitable in that grain is saved and that horses are healthier.

These and other arguments are used by advocates of crushing oats for horses. Considering the high cost of grain and also of crushing, it has been considered advisable to conduct an experiment along this line. The results of this trial given herewith appear to answer conclusively most of the above stated claims.

Results of Experiments

Five teams of horses were selected for this experiment and these were fed experimentally for eight months starting in October, 1915. The object of this trial was a comparison of the same quantity by weight of whole and crushed oats. One horse from

DUNLOP TIRES

A Great Response!

Watch "Dunlop Tires" in the emergency. There's a wealth of security in that response to the brake.

A. 73

"SPECIAL" - "TRACTION"

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

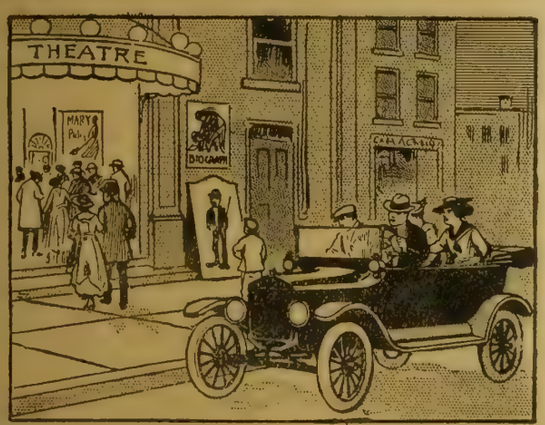
Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

MRS. M. SUMMERS, Box 309 Windsor, Ontario

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:



Keeping the Boys and Girls Contented

A Ford car will give your boys and girls so much additional pleasure and enjoyment that they will be more satisfied to remain on the farm. They may then enjoy all the pleasures of city life and still live at home.

For a trip to a distant house party, a quick run to the nearest town or city theatre, or a quiet ride to church—the Ford does it all.

Buy a Ford and note the new interest you take in life. You will find your Ford always ready for a spin on either business or pleasure.

If you have a "problem" in keeping your boys and girls at home, try to solve it the Ford way, you'll find life more worth living. Work on the farm will be easier, because you have more pleasure to go with it.

Ford

Runabout - - - $475

Touring Car - - $495

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Ford Motor Company of Canada, Limited

FORD - - - ONTARIO

41

each team was started on crushed, and the mate on whole oats, thus insuring a fair comparison as to work performed on each food. At the end of each month the feeds were reversed in each team. Careful records and weights were kept as to the feeds consumed. All horses received their usual supply of hay, water and salt. Horses were weighed each week.

As all experiments and practical trials have proven the value of some bran in a grain ration the following mixture: oats 5 parts, bran 1 part, was adopted for both the whole and crushed oats.

The first week of each month, the transition period, was disregarded in compiling results. The following observations were made:

1. The gains and losses in the weights of the horses were closely related to general health and vigour.

2. No horses became fat but all remained in good condition in spite of extra heavy work in fall, spring and early summer and regular work in winter.

3. During the whole trial the gains or losses in weight were approximately the same for both whole and crushed grain.

4. The slight difference in weights was in favour of crushed grain but amounted to only 125 lb. gain for 10 horses fed half the time on crushed grain during the eight months .

This is .15 lb. per horse per day. At the average charge of $2.00 per ton for crushing, such slight gains would cost 13 1-3c per pound. However no difference was apparent in health or general condition.

5. When bran was mixed with the whole oats the horses could not eat too rapidly owing to the dry, flakey character of the bran.

6. When horses were properly watered and not fed too much hay, whole grain was found in but very small quantities when at all, in the manure.

7. Both from the weights and appearance of the horses and the condition of the manure, crushing did not appreciably increase the digestibility of oats.

8. Whether fed crushed or whole grain, horses must have sufficient rest after meals to start digestion at least. If time is short, feed less rather than allow too rapid eating of the regular feed.

In conclusion, it seemed to be definitely shown that, to horses fed in the proper manner, the crushing of oats had little if any advantage and the cost of crushing is wasted.

Big Profit in Potatoes

1917 potatoes will undoubtedly command high prices. Buy a

Eureka Potato Planter

now. The Eureka line is the largest made. Three sizes, one or two rows, with or without fertilizer attachment. Used successfully for 18 years. Operated by one man, meaning less trouble and expense. Opens furrow, drops seed any distance or depth, puts on fertilizer (if desired), covers up and marks next row, all automatically. Driver sees seed drop. Does not injure seed.

Ask for catalog of Potato Cutters, Sprayers and Potato Diggers—the Eureka Line of Potato Machinery.

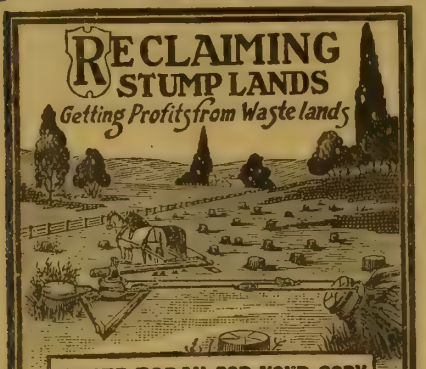
Write today. Sold by

FROST & WOOD CO., Ltd., St. John, N. B.

Eureka Mower Co.
Box 745
Utica, N. Y.

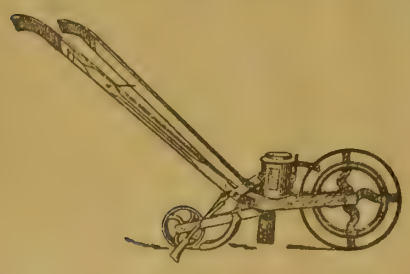
Do not lose sight of the fact that the horse is the strongest, fastest and most mobile unit in creation. Men have got to have him so long as men exist. No amount of mechanical horsepower will ever fill the place of a horse. It is impossible to get the same amount of strength in the same compass for the same money and for the same expense of upkeep.

RECLAIMING STUMP LANDS
Getting Profits from Waste lands



WRITE TODAY FOR YOUR COPY
of the most complete treatise ever printed on the reclamation of stump lands with mechanical appliances. SENT FREE with special introductory offer. **W. Smith Grubber Co., Dept. 54, LaCrescent, Minn.**

Garden Seeders !



A DANDY FOR TURNIPS

Makes the drill, sows, covers and rolls the seed while you walk. Does the work of two men in half the time. No better seeder built for the accurate sowing of turnip, carrot, cabbage, beet, pea, corn and all other kinds of garden seeds.

Price $8.50 Delivered at Your Station. Order To-day.

The Sussex Mfg. Co., Limited,
Sussex, N .B.

MAINTAINING THE HEALTH OF THE DAIRY HERD

(Continued from page 358)

depends, in my experience, in getting the animals stomach warm. Digestion cannot begin until this is accomplished. I have seen medicine operate without carrying the load out of the stomach. Apply hot salt and renew it as often as necessary, to keep her warm, as the animal can stand. If the patient will drink, give the water as warm as possible and as she will take it.

If the animal is very much bloated and in danger of suffocating, perform the operation of tapping, or letting the gas out of the stomach. This is quite a simple operation, and is done by sticking a knife into the paunch half way between the point of the hip and the first rib, and about four inches from the bones above. A trocar and cannula is the proper instrument to preform this operation, but a knife will answer the purpose. In a bad case it may be necessary to leave something of the nature of a funnel in the opening, to allow the gas to escape. Care should be taken to disinfect the instruments used, but this stomach appears to be pretty hardy, and I have seen animals recover after some very roughly preformed sudgical operations on it.

After the medicine has operated and the cow starts again to chew her cud, and you are satisfied she is on the road to recovery, do not be too anxious to see her eat. Few inexperienced people will believe how sensitive a big cow's stomach may be at this time, and the owner is generally so relieved and pleased to see improvement in his patient, that they generally feed them too soon. I have treated enough cases to have learned by costly experience, that we must be very careful indeed for a week or two after a severe attack. It is well to let the stomach have a rest. Medical men say there are 100 overworked stomachs in men, to one overworked brain, and I think this also may apply in a certain sense to cows, and for the first day I only give warm bran drinks. A very thin mash with no hay the second day, and a very small quantity of hay and warm water for a week. Some gentain and nux vomica should be fed for a week or so to tone the stomach, and great care practised in the after feeding for some time, until you are certain the animal is fully recovered, as relapses often occur, and I have had cases that caused considerable trouble for a long period.

Stoppage of the Bowels

If the animal is not bloated and refuses food, the trouble may be a stoppage of the bowels, and exhibits symptoms of pain. From the quality and quantity of feed consumed, you may suspect the trouble to be located in the many plies or third stomach. Give a large cow a quart of raw oil with 10 tablespoonfuls turpentine and apply the warming up treatment.

My experience has been that we must act quickly to be successful, even if we do not know where the trouble may be. The treatment for any form of indigestion is practically the same. Do not wait until you fear the animal is dying before you look for medicine. Give plenty the first time. The theory of giving a small dose first, and waiting until morning to see how it may act, has killed many cattle. It is generally too late in the morning. Above all things learn to be observant and to notice every time you pass animals if they look allright. Eternal vigilance is the price of success in keeping our herds healthy.

BRUCE'S CLOVERS GRASSES AND SEED GRAINS

"The Seeds that Satisfy"

Write for our illustrated Catalogue, which is FREE.

WE have No. 1, 2 and 3 grades of Red, Alsike, and Lucerne Clover; also Timothy in stock; also Sweet and Crimson Clover, Blue and Orchard Grass, Oats, Barley and Corn, and practically everything the farmer plants.

JOHN A. BRUCE & CO., Limited
Seed Merchants Established 1850 HAMILTON, ONT.

"Astonishing how my

Strength and Fitness

came back," says Mr. Inman, a Winnipeg business man, cured by Dr. Cassell's Tablets.

"It was astonishing how my strength and fitness came back," says **Mr. G. C. INMAN, of 330, HARCOURT STREET, STURGEON CREEK, WINNIPEG,** for many years a well-known man in the business life of Canada. Mr. Inman continues: "It is about three years now since I first used Dr. Cassell's Tablets. I was terribly run-down and weak. Sometimes I felt I should have to leave off altogether, my work was such an effort to me, I ate little, I had no appetite, and I suffered if I forced myself to eat.

"My nerves of course were in a bad way, and my sleep very disturbed. Everything, in fact, pointed to a nervous breakdown. It was then a friend told me about Dr. Cassell's Tablets, and I got some to try. The first result was that I could sleep at nights, and then my health rapidly improved. It was really astonishing how my strength and fitness came back.

"I may add that some time ago my mother was very ill with pernicious anæmia. I urged her to take Dr. Cassell's Tablets, but she would not, so I crushed them down and gave them in food without her knowing. She was confined to bed before she had the Tablets, and now is about again well and bright."

Mr. G. C. Inman.

Mr. Inman is now in England, having had to return there some little time ago to take control of the well-known firm of A. W. Inman and Son, Printers and Publishers, Leeds. Letters will reach him there.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

STOP YOUR FIRE LOSS "METALLIC" BUILDINGS ARE SAFE

WHY build with inflammable wood when you can get fireproof, weather-proof and lightning proof "Metallic" building materials. They are far cheaper in the end. "Empire" Corrugated Iron Siding is easily and quickly laid and makes a strong, rigid wall. Its light weight makes heavy construction unnecessary.

"Eastlake" Galvanized Shingles, coupled with "Halitus" Ventilators and "Acheson" Roof Lights make a perfect roof. "Metallic" building materials defy the elements. "Eastlake" roofs laid over thirty years ago are good to-day.

"Metallic built" means fireproof, stormproof, neat and durable construction.

Before buying any building materials write us for Booklet and complete information. We can save you money.

Metallic Roofing Co., Limited

Toronto and Winnipeg

162

STRAWBERRY GROWING FOR PROFIT

(Cintinued from page 357)

mercial growers who raise berries for the money there is in it.

The past few years, a novelty in fruit growing has been introduced in the shape of the fall bearing strawberry. These begin producing blossoms the same year they are set out, and under good cultural conditions will continue to produce blossoms and ripen fruit, up to the time the frost kills them in the fall. The Progressive and the Supurb are two of the best fall bearers, and while not yet proved a commercial success in the Maritime Provinces, they are a great addition to the family garden. A few hundred plants will give berries two or three times a week for the table from August to the last of October. They also have a spring crop the same as any other variety, and after a short rest, will again produce in the fall. The Progressive is the earliest variety yet tested at the Central Experimental Farm and aside from its fall bearing propensities is a very promising new spring variety for the Maritime Provinces.

SPRAY CALENDAR FOR NOVA SCOTIA APPLE ORCHARDS FOR 1917.

First Spray

Time:—When leaves about blossom clusters are showing green. For Canker Worm defer this spray for a few days.

Material:—Lime sulphur 1.009 sp. gr., or 3 gals. commercial strength to 100 gals. of water (1-33), adding powdered arsenate of lime, 2 lbs. to 100 gals.

Application:—Drench thoroughly at 200 lbs. pressure, using a drive nozzle.

Pests Destroyed:—Apple Scab, Budmoth, Browntail Moth, Canker Worm, Tent Caterpillars, etc. If Aphids are present add nicotine sulphate, ¾ pint to 100 gals.

Second Spray

Time:—When blossom buds are showing pink at tips. For Canker Worm apply slightly earlier; for Green Apple Bug, leave until just before the blossoms open.

Material:—Lime sulphur 1.007 sp. gr., or about 2 1-3 gals. to 100 gals. of water (1—43), adding powdered arsenate of lime 2 lbs. to 100 gals.

Application:—Drench thoroughly at 200 lbs. pressure, using a drive nozzle.

Pests destroyed:—Apple Scab, Budmoth, Browntail Moth, Canker Worm, Fruit Worms, etc. If Green Aphis or Green Apple Bug is present, add nicotine sulphate, ¾ pint to 100 gals., making sure that every insect is covered with the spray. For very severe infestations of Green Apple Bug, the tree must be banded with tree tanglefoot before spraying and kept clean cultivated until July 7th.

Third Spray.

Time:—When blossoms fall.

Material:—Lime sulphur 1.006 sp. gr., or about 2 gals. to 100 gals. of water (1-50), adding powdered arsenate of lime 1½ lbs. to 100 gals.

Application:—Use 200 lbs. pressure and a calyx nozzle.

Pests Destroyed:—Apple Scab, Pit Rot, Codling Moth, Fruit Worms, Budmoth, etc. If Green Apple Bug is present add nicotine sulphate, 1 pint to 100 gals., using a drive nozzle as in previous sprays.

Fourth Spray

Time:—Ten days or two weeks after the third spray.

Material:—First Choice.—Bordeaux 7-7-100, adding paste lead arsenate 5 lbs. to 100 gals., or powdered arsenate of lime, 2 lbs. to 100 gals.

Second Choice.—Lime sulphur 1.005 or 1 2-3 gals. to 100 gals. of water (1-60), adding 1¼ lbs. powdered arsenate of lime to 100 gals. of water.

Application:—Use 200 lbs. pressure and a calyx no zle.

Pests Destroyed:—Apple Scab, Pit Rot, Fruit Worms, Codling Moth, Tussock Moth, Fell Webworm, Red-humped Caterpillar, Yellow-necked Caterpillar, fall feeding Browntail Moth Caterpillars, etc.

Fifth Spray

In very wet seasons a fifth spray may be necessary to control APPLE SCAB. This is applied ten days to two weeks after the fourth spray, and is the same in material and application. When Tussock Moth and Browntail Moth Caterpillars are present in injurious numbers, the application of this spray is recommended.

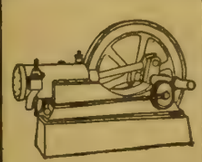
—By G. E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S., and W. H. Brittain, Agricultural College, Truro, N. S.

The Farm and Ranch Review of March 20th depicts on its front cover, a flock of lambs nine months old that weighed, when put on feed, 52 lbs. on November 13, 1916.—Taken off feed February 28, 1917, averaging 98 lbs.—Bred from Merino ewes with three crosses of Shropshires.—Fed on alfalfa hay and chop.—They were probably the choicest lot ever marketed in Canada and sold at the record price of $13.60 per 100 lbs

FIVE modern oil refineries, so located in five Canadian provinces as to eliminate long railroad hauls, aid directly in reducing to you the cost of the highest grade oils for the lubrication of the different machines on your farm.

All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.

AN OIL FOR EVERY FARM MACHINE



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POLARINE OIL
STANDARD GAS ENGINE OIL

For Kerosene Engines, Tractor or Stationary
POLARINE OIL HEAVY
IMPERIAL KEROSENE TRACTOR OIL
(Recommended by International Harvester Co.)

For Open Bearings of Farm Machinery
PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture
ELDORADO CASTOR OIL
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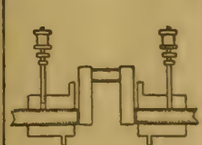
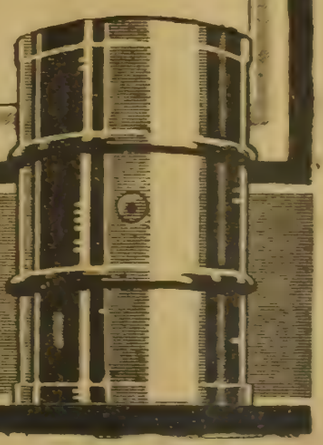
For Steam Cylinder Lubrication, whether Tractor or Stationary Type
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication.



For Grease Cup Lubrication of Bearings
THRESHER HARD OIL
—a clean, solidified oil, high melting point



The Imperial Oil Company Limited

BRANCHES THROUGHOUT CANADA

HOW TO DISINFECT YOUR STABLES

Farmers are constantly advised to disinfect their stables, hen houses, calf pens, etc., but do not know how to proceed to do it effectively in all cases. The following explicit direction by the U. S. Department of Agriculture will be found useful and might well be filed for future reference:

Chemical disinfectants are used to good advantage in controlling disease and the following directions for their use are given:

1. Sweep ceilings, side walls, stall partitions, floors, and other surfaces until free from cobwebs and dust.

2. Remove all accumulations of filth by scraping, and if woodwork has become decayed, porous, or absorbent, it should be removed, burned, and replaced with new material.

3. If floor is of earth, remove 4 inches from the surface, and in places where it shows staining with urine a sufficient depth should be removed to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.

4. The entire interior of the stable, especially the feeding troughs and drains, as well as milking stools and all other implements, should be saturated with a disinfectant, as cresol compound (U. S. P.), or carbolic acid, 6 ounces to every gallon of water in each case. After this has dried, the stalls, walls, and ceilings may be covered with whitewash (lime wash), to each gallon of which should be added 4 ounces of chloride of lime.

5. All refuse and materials from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under. In addition, the yards should be disinfected by sprinkling liberally with a solution of copper sulphate, 5 ounces to a gallon of water.

The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as used by orchardists.

This method is efficient in disinfection against most of the contagious and infectious diseases of animals, and should be applied immediately following any outbreak, and, as a matter of precaution, it may be used once or twice yearly.—Geo. H. Glover, Colorado Agricultural College, Fort Collins, Colorado.

HANDLING THE CHURN

My choice of churns is the barrel or plain box churn. It should be scalded, then rinsed with cold water before cream is put in. It should not be filled more than two-thirds full, so as to give plenty of room for the chug.

After a few revolutions pull the plug out and let the gas escape. Do this several times at the start or you will have trouble. Give the speed that will produce the best chug of the cream. Just before the butter gathers the sound of the churn will change from the dull thud to a watery swash.

Continue churning until the butter is in granules the size of wheat kernels, draw off hte buttermilk, rinse with clean, cold water, turn the churn a few rounds, then daw off the water and rinse again. After taking the latter out wash the churn immediately. The barrel churn is easy to clean and has no place or open space to let the cream get in, as a dash turn has.—Mrs. L. Bond.

CONTRACTED TENDONS

"Mare, 11 years old, got a wire cut about ¾ in. deep on back of left front leg about 1½ inches above coronet. I washed cut out at once with creolin and water and applied antiseptic healing powder. Cut healed up well, scarcely leaving a scar, but when nearly healed leg swelled and seemed hot up to knee. Then it broke out in two places between pastern and knee. I poulticed for this and swelling gradually went down. Since then the foot has gradually drawn back, as though cords in back of leg were shrinking, until now she can just get her toe on the ground. If she puts weight on it the pastern joint almost touches the ground in front."—J. D. M.

This horse is now suffering from contracted tendons and a severe inflammation of the tendons, sheaths, and joint. The conditions is now too severe to expect a permanent cure. Would recommend blistering around the pastern with any good blistering absorbent preparation, such as absorbine, or caustic balsam. A special shoe should be put on the foot of the affected leg to afford mechanical relief. Such a shoe should be high at the heel, and have an extension projecting heel.

CORRECTING SPRUNG KNEES

A Belgian colt stands over a little in his knees. Will he outgrow it or would it be best to shoe him? What would be the best method of shoeing? He is 9 months old and weighs 1,060 pounds.—R. L. B.

Standing forward in the knees may be an inherited weakness. Many heavy-boned colts are subject to it, especially in their first period of rapid growth, when carrying plenty of flesh with not enough exercise. This colt is heavy for his age. Do not feed to put on flesh. Seek growth. Give a sufficient quantity of grain, mostly oats and bran. Be sure that the colt can run out and have plenty of exercise. When in the barn provide him with a boxstall. It is injurious to tie colts up in stalls as they usually become low in front. It is advisable to have this colt shod. In paring the hoof save the heel and lower the toes. Have the shoes made thin in front and running thicker towards the heel. The colt will gradually improve and out-grow the fault. If inherited, the recovery may be slow.—Emery H. Joye, in Breeder's Gazette.

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RESERVE POWER

THE McLaughlin valve-in-head motor actually develops from 15% to 20% more power with the same fuel consumption than any other type of motor of the same bore and stroke. This fact has been established by engineers, by block tests and tests in actual service. This means fuel economy and power.

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THE SMITH FOUNDRY CO., Ltd., Fredericton, N. B.

3½ BBLS. POTATOES FROM 15 OUNCES OF SEED

In the year 1896, just about 21 years ago, I sent for 1 lb. of Maule's Early Thoroughbred seed potatoes, for which I paid $1.50 and when received by mail from Philadelphia, they weighed without wrapping barely 15 ounces. I cut the sets very small, even splitting the eyes, and at the seed end where the eyes are very close together, the sets were as small as beans, or even as small as peas.

The land had been manured and plowed the autumn before and very thoroughly cultivated in the spring. I made the hills 3 feet apart. In all, I think I had 177 hills, each of which I dug out about 8 inches to receive the set, which I covered with only about ½ inch of soil at first, but I filled it in very gradually as they grew, until it was level with surface of the hill.

About the first of June we had a very heavy thunder-shower, and the land which sloped to the southwest completely filled the hills with earth; but I dug the hills out very carefully again, I think with my fingers, so as not to hurt the tiny leaves, and this soon revived them. I kept on gradually filling in the hills as they grew, until they were level with the surface. Then I cultivated them all through the summer once a week, and oftener if there was even a shower to pack the soil. I cultivated as soon after as it was dry enough not to pack the earth. The second time I cultivated as deep as I could, but after that I cultivated as shallow as I could. Some years even before that, I gave up hilling potatoes, as it cuts off so many little rootlets. When we dug those potatoes in the autumn the ground was literally covered and we had 3½ bbls. from 15 oz. of seed. We still have some of that same good yielding variety, only being pink they are not so good for market, but they are early, good keepers and about same quality as the old Early Rose.

A few years before that time I bought 1 lb. of Freeman potatoes, a variety much like the old Snowflake only a much better keeper for spring use. I gave the 1 lb. of seed good field culture and I had 2 bushels in the autumn, which I planted the following year and the sets yielded 40 barrels. We are still platning the same variety for market, after 23 years, and find it yielding and keeping well.

JOHN H. KING,
Kingsbrook Farm, Sussex.
April 19, 1917.

Editor's Note:—Can any of our readers give records of production that will approach or surpass those furnished by Mr. King.

STOCK NOTES

Mr. Hugh R. McMonagle, Sussex Corner, has recently returned from Ontario, where he purchased two pure bred Clydesdale stallions. Mr. McMonagle has been instrumental in introducing new blood from time to time into the horse breeding industry of his native and adjoining counties. He intends to retain one of the stallions for stud purposes, the other he will sell. The stallions are:

Stanley Prince 2nd, 4325.

Dam

Queen of Quality, 2519.
Fanny, 2518.
Kate, 2533
Jean.

Sire

Stanley Prince (2265) 6315.
Prince of Quality Imp. (2173) 10416.
Self Esteen Imp. (377) 5344.
Alexander McGregor, 111.
Dainty Davie, 152.
Clydesdale Jock, 195.
Cumberland (Imp.) (172) 106.

Stanley Prince 2nd is a low set horse of great substance, weighing 1845 pounds. He is a guaranteed, sure stock getter and has been a first prize winner on fifteen different occasions in Quebec and Ontario. He has also won several diplomas and three gold medals, the latter including the Hon. R. L. Borden gold medal at Ottawa in 1915 in a competition of 15 horses, where he was also first with three of his get.

The other horse is Dunure City 2nd, 13111, sire Dunure Wallace Imp. (8455), 14488. Dam Lady Radal, 16563.

Dunure City is also a guaranteed stock getter and a grandson of Baron of Buchlyvie, the $47,000 Scottish champion.

What about an adequate supply of green feed foil soiling purposes during the season, when pasturage will be short this summer.

THE FACTORS WHICH CONTROL THE DEPTH OF PLANTING OF GRAIN

When a seed germinates, it sends out a sprout and some temporary roots. The sprout must push its way through the soil. The food stored in the seed is used to keep the young plant growing until it has time to send out roots from the sprout. This requires about a week. The roots that first appear die at this time. Therefore a small seed planted deep in a heavy soil may never come up, although it may start growth. The same seed planted the same depth in a sandy soil might easily grow.

Corn has larger seed than wheat. There is more substance in the grain and it can be planted deeper in the soil than wheat. The depth is not in proportion to the size of the seed, because the corn sprout is larger around than the wheat. Therefore for each inch of growth, more food is required.

The location of moisture is important. A seed planted in dry soil is not going to grow until it rains or until the soil becomes wet, and since a loose soil dries out quicker than a compact soil the seed must necessarily be planted deeper in the loose soil in order to get to moisture. For this reason the seed bed for wheat should be more compact than the seed bed for corn. The corn sprout will grow higher than the sprout of wheat because there is more plant food in the kernel.

Grain crops should be planted sufficiently deep to get the seed into moist ground and at the same time is should be planted shallow enough so the sprout can reach the surface. This depth varies according to the kind of seed, type of soil, and location of moisture.—O. S. Rayner.

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19 Years' Roofing Satisfaction

The name Paroid has come to mean something more than ready roofing. Demand Paroid and look for the name on every roll you buy, because inferior grades have often been offered as being "the same thing as Paroid." This is a warning, for your protection as well as ours!

Paroid is positively fire resisting; burning brands die out without damage on it. Paroid costs no more than the best wooden shingles. It is easiest to lay, lasts longer, and gives you the greatest protection all the time. You waste no time repairing Paroid roofs.

Neponset Paroid is made in three permanent colors, Grey, Red and Green, the last two being surfaced with crushed slate

For your home select Neponset Twin Shingles, Red or Green, with the same high qualities of Paroid.

Lumber or Hardware dealers sell Neponset Products and will give you good satisfaction.

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Chevrolet Motor Co. of Canada, Limited

OSHAWA, ONTARIO

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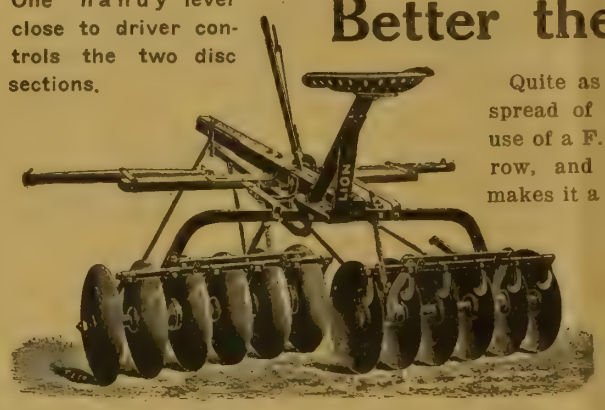
The Finer the Mulch---the Better the Crop

One handy lever close to driver controls the two disc sections.



Quite as important as a spread of fertilizer is the use of a F. & W. Disc Harrow, and its light draft makes it a pleasure to use.

The value of a good seed bed cannot be over-stated. Take no chances THIS year.

Frost & Wood "Lion" Disc Harrow

A staunch in-throw Harrow; the two disc sections, held in place by an immensely strong main frame of steel, are run on highly polished, dust proof ball bearings, and the angle of their "cut" is controlled by one handy lever. The inside discs are kept into the soil by strong springs and driver's seat is well back so as to lessen neckweight on horses, meaning extra light draft. Two sizes, 12 and 14 discs.

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Is at all times safe and dependable, because of its simplicity and its strength. For twenty years it has been standard, and on thousands of farms it is to-day giving excellent service.

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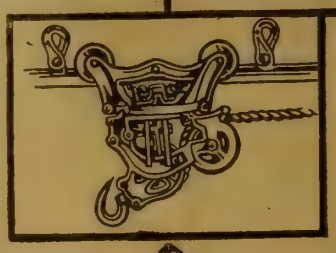
Set the tines of the fork deep into the load. It will lift an immense bundle and deliver it in the mow in even flakes, not tangled up as is the case when other forks are used. Handles clover, alfalfa, loose grain or straw, as clean as timothy.

Our catalogues will tell you all about the big Louden line. Write for them to-day. They are free.



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Volume 22. SUSSEX, NEW BRUNSWICK, APRIL 24, 1917. Number 14.

Buying and Selling Co-Operatively

Are You Interested? Read! Think! Act!

Co-operation has been, for many years, a mooted question among the farmers of the various agricultural sections of Canada.

Various organizations, based on this laudable principle, have been established, with a view to effecting a closer relationship between the farmers themselves and the cutting down of the expense of getting goods and produce from the producer to the consumer.

The toll, taken by middlemen, who do comparatively little, if anything, to keep the wheels of progress in action, is simply appalling. Many of them are of no more value to a community than a fifth wheel would be to a carriage. They eke out a fat living in their parasitic existence on the labours of the producers.

The toll taken by the middlemen, includes the greater percentage of what the consumer has to pay for produce and goods, as will be readily ascertained by any person who will take the trouble to compare the prices charged by the producer with the prices which the ultimate consumer has to pay.

In sections where no co-operative organization exists for the direct handling of the staple commodities, it is true the middlemen have their place, and so long as the farmers and consumers are content to allow so much toll to be taken off them, so long will they have to pay exhorbitant prices for goods purchased, and take the lowest possible figures for the products which they have for sale. And just so long will the farmers be obliged to secure a lesser return for their labors than they would be entitled to if they would realize and take advantage of the power they themselves possess in the weapon of co-operation.

Co-operation has had its ups and downs. Whether you have been successful with a co-operative movement in your section or not, depends entirely on the energy and zeal you and your associates have put in the work. One of the big causes of failure to make co-operation go with a swing in certain districts, has been due to selfishness getting the upper hand. In other sections, Dr. Reynold's adage, "He who waits to do a great deal of good at once, will never do any", has been neglected, while in other cases trying to do too much at the start, has sounded the death knell of young organizations. It is always wise in establishing a co-operative movement to "creep before you walk." Get one or two lines firmly established, and then take on more work as your machinery is able to handle it effectively.

The middlemen understand each other very well, and just as soon as a co-operative organization is launched, they like Demetrius and his associates of old, get together and their spokesman announces:—"Sirs, ye know that by this craft we have our wealth. Our craft is in danger of being set at naught", and all with one accord cry out, saying: "Great is Diana of the Ephesians."

Immediately ways and means are planned for the smothering of the young organization. If the various members of the co-operative organization are not wary enough to watch the snake-in-the-grass and forestall its methods of spreading discord, and putting obstacles in the way, unretrievable damage may be done and the organization may receive such a set-back, that it may take years to overcome, or disorganization may eventually take place.

The biggest co-operative organization in Canada today is the Grain Grower's Association of the West. Then there are the Fruit Shipping organizations of British Columbia, and The United Farmers of Ontario.

Coming nearer home, we have the United Fruit Companies of Nova Scotia, the Egg Circles and Co-operative Lamb Sales of Prince Edward Island; the various Wool Grower's Organizations; The Agricultural Societies united of New Brunswick, The Pictou County United Farmers and several kindred organizations in the three provinces.

The Egg Circles of Prince Edward Island have been the means of putting a better grade of eggs on the market, and the returns to the individual poultry men have been much larger than would be possible under the old system of individual marketing.

The history of the Lamb Sales organization, which conducts its operations in Prince Edward Island, and which has been the means, under the efficient direction of Rev. Dr. P. C. Gauthier, of netting the farmers the highest market prices for their lambs, is well known to the readers of the Maritime Farmer. It is no longer a question with the Prince Edward sheepman as to who dictates the price. "We will take so much for our entire lamb crop", is the way they talk. The old way was the buyer saying, "I will give you so much."

The various wool sales organizations have done good work during the short time they have been in operation. Through their agency the wool growers have been able to receive top notch prices for their wool, and thus thousands of dollars have been brought to the farmers' pockets, that otherwise would go to middlemen.

The United Fruit Companies of Nova Scotia have proved the merits of co-operative buying and selling to a marked degree. In seasons of glutted markets, full crops, and deficient transportation facilities, they have solved the most difficult problems and have been the means of getting good average returns for their patrons, where some of the fruit men, who would not co-operate, but who were willing to support a horde of middlemen, had to put up with slim returns or let their fruit rot in their orchards and warehouses. Co-operators do not have to give their apples away and pay for their delivery to the English market as individual shippers have occasionally been called upon to do in the past.

In the purchasing of suplies they have saved their patrons thousands of dollars each year, and the good work still goes on. Vested interests have repeatedly striven to sow discord among the members, but the more intelligent and business like growers refuse to be foozled.

The New Brunswick Agricultural Societies United, have saved fertilizer users of the province hundreds of thousands of dollars in the purchase of chemicals for fertilizing purposes. We have known cases where from $5.00 to $15.00 was saved on the purchase price of a single ton. Is it not worth while getting in line?

The farmers of Pictou County are vigorously pushing the work of co-operative purchasing and sales organizations, and the outcome is bound to favorably affect the farming industry of the county.

It is unnecessary for the Maritime Farmer to go any further into the merits of co-operative organizations. Our intelligent readers know what co-operation has done for others in the past, what it is doing for them, and what it will do for all those, who, endowed with the right spirit, will enter the ranks.

The dairymen of the Maritime Provinces annually import thousands of tons of mill feeds for their stock. The major portion of this feed is purchased in small lots from middlemen, who in turn purchase in small lots from the mills in the case of some lines, and through brokers in other lines.

One of Canada's best authorities on live stock, told us not long ago, that he and some other progressive farmers had purchased their bran requirements, in the summer of 1916 for $19.00 per ton F. O. B. mill.

While in Truro a week or two ago, one of the prominent dairymen of that vicinity, told us he had purchased one ton bran and one ton middlings that day for cash, and had to pay $44.00 per ton for the former and $47.00 per ton for the latter.

Some difference between $19.00 per ton and $44.00 per ton! The dairyman in question could have purchased his bran requirements last summer, when prices were at their lowest.

Our dairymen are paying too much money for the mill feeds they use. We would, of course, advocate the home growing of feed as much as possible, but so long as feeds are imported, why not have it done in the way that will bring it in the cheapest possible way.

The solution of the whole matter is to be found in co-operative buying.

Why not have the purchase of feeds conducted along the same lines as the purchase of fertilizers is now conducted by the New Brunswick Agricultural Societies United?

The plan would be somewhat as follows:—

Take cotton seed meal purchasing as an example. Any farmers' club, whose cotton seed meal requirements would aggregate one or more car loads in one year, would be in position to buy at the lowest market price, by making financial arrangements with their nearest bank. This would be done by the Directors of the club signing a joint note, which would be deposited by the Secretary-Treasurer with the Bank. The Bank manager could then guarantee the payment of sight-drafts attached to carload bills of lading. The cotton seed meal would be distributed ex-car, for which the patrons would be required to pay cash or bankable paper satisfactory to the directors of the club, at the time the goods were delivered. The meal would come freight prepaid, the amount of freight included in the draft.

The Secretary-Treasurer of the club would be required to furnish each member with a blank requisition form, on which the members would state the quantity of cotton seed meal required for one year by each individual member. These forms would have to be returned to the Secretary before a set date. The Secretary would file these signed requisitions, total up the requirements and forward the aggregate order, together with the Banks guarantee to some central organization that would aggregate the orders from the various clubs in all parts of the Maritime Provinces that would wish to so co-operate. This large order could be sent direct to the mill instead of to the broken, and the purchase thus made at the very lowest possible figure. Each club would set the percentage over cost price to pay for the secretary's work, in looking after the business of securing orders, distribution and banking.

The Maritime Farmer will gladly act as the central buying organiza-

(Continued on page 410)

The Farmer's Bit Behind The Front

Everywhere, the world's reserve supply of food-stuffs is being rapidly reduced. Recent advice indicate that the wheat production of Argentina, New Zealand and Australia is estimated at only 70 per cent. of last year's production. The factors tending towards reduced production, such as labour shortage and increased cost of seed, will adversely affect every department of the farm. This means that supply will not overtake demand for some time to come.

It will be both patriotic and profitable for farmers to put forth the utmost effort to increase the food supply. Unlimited food is a vital necessity to the successful prosecution of the war, and its production is true national service, irrespective of the reward that may be looked for in dollars and cents.

The call has gone forth for increased production of food supplies for 1917. The man on the farm has a service to perform just as surely as has the man in the trenches. Food is one of the essential munitions of war. Our boys in the trenches serve long, weary hours without the comforts of home to go to when their watch is over. Our boys at home ought not be too fastidious about the hours they work at home. Their lot is an easier one than is that of their fellows who are afar fighting the battle of freedom for them. They have their comfortable beds to go to when the days work is done, where there is no one to molest them or make them afraid.

So urgent is the call for increased production that Sir Arthur Lee, the Comptroller of Food Supplies for England, is asking the farmers to work seven days per week during the seeding season.

In the Maritime Provinces our farmers are short of man power, and when increased production is urged the farmer will naturally wish to know how he can accomplish the task. Brain must be used instead of brawn. Only in rare occasions will it be found practicable to increase the acreage so that the question finally resolves itself to one of improved methods.

All the horsepower a farmer can muster and handle must be put in the field. Three and four horse teams must be used on heavier and more efficient machinery. Thorough preparation, fertilization and cultivation must be practiced, any one of which will increase the yield over that of where only slipshod methods are employed.

The very best seed available must be used.

Many farmers could increase the yield and profitableness of their field crops by sowing the particular varieties best suited to their soil and climate. More bushels per acre of barley, oats and wheat can be obtained by this means without a corresponding increase in labour.

That large, plump seed will produce more bushels per acre than will the average seed used by many, is an established scientific fact.

Fifteen per cent. is a rational increase that can be had from every acre sowed if the necessary precautions are taken.

Throughout the Maritime Provinces the approximate increase becomes an enormous amount.

This amount can be secured without the expenditure of any extra labor at seeding time, and with but little at harvest time.

Careful preparation of the seed is the secret.

All necessary seed should be properly cleaned and bagged during the late winter season. Every farmer has time to do this after March first and before seeding time. Will you assist in the Greater Production of foodstuffs by careful cleaning of the seed?

Perhaps pedigreed seed cannot be secured. If not, select out of your granary three times the amount of grain required for seed purposes. By use of the fanning mill, clean and reclean until you have just sufficient for seed purposes.

Use proper sieves and plenty of wind in the mill and the third part remaining for seed will be the largest and plumpest seeds, which naturally are the most vigorous.

Do this work before seeding commences.

Do not hesitate to purchase pedigreed seed at an advanced price.

Two bushels of oats will sow an acre. The extra return from good seed will be from 5 to 10 bushels per acre, and decidedly more in some cases.

The market value of the increased yield represents the additional outlay that can be made for good seed per acre.

Vigor in seed grain is just as essential as vigor in live stock.

In a recent address, the Dominion Minister of Agriculture, Honourable Martin Burrell, stated that last year's epidemic of rust in the prairie provinces had cost this country one million dollars. That represents $143.00 for every farmer in Canada. Other diseases and drought occasioned the country a loss of another fifty million dollars. No specific remedy for rust has yet been discovered. This much is known, that a late maturing crop is more subject to the disease than one that ripens early. It therefore follows that while no variety of grain is immune, the early maturing varieties will have the best chance of escaping. A reasonably early spring, early sowing and a quick maturing variety of grain constitutes the best insurance against such an outbreak as was experienced last year.

Among other diseases which cause havoc among growing grains, Smut is perhaps the most widespread. It is stated that the annual loss due to Smut in Oats, Wheat and Barley amounts, in an ordinary year, to seventeen million dollars, or 6.2 per cent. of the capital invested in those crops. Prevention of this kind is most necessary in these days of high cost of labour and seed. Wherever there is a danger of Smut attacking either of these crops, farmers will do well to take this simple precaution.

Prevention of Waste

This waste can be largely eliminated by proper treatment of the seed.

Secure 1 pint of formalin for every 20 to 30 bushels of oats required for seed purposes. Dilute with 42 gals. of water, and use a barrel in which the bags of grain may be immersed for 20 minutes. Spread out to dry, and then place in new bags or in bags that have been treated in a similar manner and thoroughly dried, thus preventing re-contamination.

The adoption of these two suggestions would mean millions of bushels of grain extra.

A few precautions should always be observed.

(1) Formaldehyde varies in strength and, if there is doubt as to its quality, a sample of it should be sent to the chemise of the Experimental Farm, in order to determine its exact strength.

(2) The sacks in which the grain is treated should first be cleansed by boiling in water, or by washing in a strong solution of formaldehyde.

(3) Everything which the grain touches after having been treated, sacks, seeder, etc., should be very thoroughly cleaned with a strong solution of formaldhyde (1 pint to 10 gallons of water.)

(4) If the seed is kept for some time after treatment; allow for the swelling of the seed, if you sow the grain soon after treatment, by planting per acre.

The common Scab of the potato is unsightly and while it does not cause the damage that is attributed to the Powdery Scab it depreciates the selling value of your potatoes. No one wishes to buy scabby potatoes. If you do not grow scabby potatoes you will have no scabby potatoes for sale. The scab of potatoes is a fungus growth which shows itself in a rough and cankerous appearance on the surface of the tubers. A great amount of work has been expended on this disease and still no preventive is known if the land is inoculated with the trouble.

Of a large number of methods used for treating the seed potatoes, soaking them in a solution of formalin, one pound to thirty gallons of water for two hours, is the most effective. Soak the potatoes before cutting them, and if they are not planted at once spread thinly to dry. This treatment will kill the disease on the seed, but scab can live in the soil for many years without a known host. Lime, wood ashes and barnyard manure aid the growth of scab, while sulphat of ammonia, muriate of potash, acid phosphate and dissolved lime render the soil less favorable to the disease. If you have never treated your seed potatoes for scab do so this year and watch results. You will be delighted with the smoothness of the tubers. If you have used the treatment once we know you will do so again.

Professor C. A. Zavitz in correspondence with an exchange, says that:

"Skilled labor throughout the province is very scarce. The farmers of Canada have an exceedingly difficult task ahead of them if they are to increase the production of the most valuable kinds of food materials in 1917. The following suggestions are offered in the hope that they may prove helpful:

"1. Carefully plan the crop production for the season at an early date.

"2. Thoroughly clean and grade the grain so as to procure the large, plump, sound and well matured seed.

"3. Test the germinating power and the vigor of the seed before time to sow.

"4. Overhaul implements and machines so as to be ready to start seeding early and to sow each class of crop at the best time for highest results.

"5. Arrange for at least a small amount of such cultivated crops as beans, potatoes, turnips and corn.

"6. Watch and destroy the weeds before they are able to make much headway.

"7. Economize man labor by using three and four horse teams when possible.

"8. Plan so as to make the best use of the unskilled labor which is available."

The Cost of Growing Potatoes

In potato growing provinces like New Brunswick there is always more or less discussion as to what it should cost to grow a good crop of potatoes and statements vary from as low as $40.00 per acre to as high as $125.00. Naturally there will be much variation in cost according to local conditions and especially to the ability of the land to produce without expensive fertilizing. It should be borne in mind that it will usually cost the potato specialist more to grow his crop than it will the farmer who follows mixed farming and makes his potato crop merely one of his many activities.

With a view to getting actual figures under average conditions in New Brunswick, a careful record has been made at the Dominion Experimental Station, Fredericton. for the past two seasons with an acre of land set apart for this particular purpose.

Neither rent of land nor depreciation of machinery was included in the calculation, for these two are items that are largely in the hands of the individual grower. As a general rule, however, it would be fair to charge as rent, 10% of the value of the land, and special potato machinery will depreciate from 25% to 50% per year if used steadily for ten days each season. In 1915, the depreciation of the potato digger alone, used at the Experimental Station, was $6.00 per acre.

In 1915, the acre was planted with Green Mountain, Irish Cobbler and Empire State. Seed, cultural operations and harvesting cost in all $67.93. Eighty barrels of 165 pounds each of marketable potatoes were obtained and sold at $1.75 per barrel, making a profit over cost of production of 90c per barrel. Seven barrels of culls were sold for $3.50, so that the total profit for the acre amounted to $75.50.

This land was rather wet naturally and during the very raing weather of June and July, was several times flooded, causing missed hills and inferior plants generally. This land was originally cleared many years ago, and after cutting hay for thirty years it was allowed to grow up to spruce, birch and alder. It was again cleared in 1913 and grew buckwheat in 1914.

In 1916, an acre was planted with Green Mountain seed.

The total cost amounted to $82.33, the increase over 1915 being due to high priced seed, higher priced fertilizer ingredients and very dear copper sulphate.

One hundred and twenty barrels of marketable potatoes were harvested and could have been sold at $2.25 per barrel, making a profit per barrel over cost of production of $1.56½, plus six barrels of culls at 50c, $3.00, making a total profit of $190.20.

Market price when potatoes were dug was $2.25 per barrel. Later they could have been sold at $3.25, but are held for seed.

This land grew hay for many years and was broken up and grew potatoes with 750 pounds fertilizer in 1913, corn with 18 tons barnyard manure in 1914, oats without manure in 1915. This land is on a slope, fairly well drained and except for washing out slightly between the rows felt no bad effects from the June deluge.

"One year of seed, 7 years of weeds." Weed seeds are produced in great abundance. A given crop of weed seed does not germinate the first season, but distributes its germination over a period of years.

Seeds deep in the soil do not germinate readily because of lack of oxygen, and those that do grow exhaust the stored food in the seed before reaching the surface. Seeds may lie buried in the soil for years without losing their power of germinating. Such seeds may germinate readily when brought to the surface.

The Place of Roots in Our Farm-Scheme

Editor The Maritime Farmer:

The agriculture of any locality must be adapted to its climate. Each crop has its own climatic requirements which the farmer should study carefully, for the art of crop production is the securing of perfect harmony between the plant and its environment. Upon the climatic and soil conditions and the cropping systems, depends the extent of the live-stock industry of a locality.

The growing of crops is purely agricultural and is limited to the summer months, whereas the live-stock industry is a combined agricultural and manufacturing industry which gives employment to the country population throughout the year. Particularly is this true of the dairying industry.

With our cool temperature and the character of the precipitation, pasturage in New Brunswick is unsurpassed and the production of such forage crops as clover and roots is highly profitable for the continuance of the production of dairy products during the winter, or, in the case of turnips, as an immediate money crop.

Whether the growing of roots or corn as food for live-stock is to receive the greater attention, is largely a matter of their productivity in our climate and their suitability as succulent food. Root growing is general over the whole province, while the production of corn is more localized. To winter stock cheaply an increase in the production of one or other of these crops by almost every stock-owner is necessary and the climatic and soil conditions for growing the best possible root crops are unsurpassed.

There are in this province about 200,000 head of horned cattle and the present production of roots is such that it would allow only 20 bushels to each animal,—just about enough for two month's feeding.

Were we to take a leaf from the Book of Agircultural Practice of Denmark, in the matter of root-growing for stock-feeding, our agriculture would profit immensely. Denmark is but half the size of the Province of New Brunswick, yet the

		Yield per acre	
		Swedes.	Mangels.
Root acreage in Denmark in 1897 was	200,000 acres.	14.3 tons	17.0 tons
" " " " " 1912 "	624,000 "	17.0 "	21.0 "
Increase in 15 yrs.	424,000 "	2.7 "	4.0 "

This is an immense increase and the people all speak highly of the practice as a part of their general agriculture for the sake of the fields and the sake of the live-stock.

We in New Brunswick produce about 8,000 acres of roots. Is it because we will not bend our back to hand-hoe that we do not grow more, or is it because we fail to realize their value? Surely when turnips sell at 75c and $1.00 per barrel, the acre-profit would equal or surpass that of potato growing, if we knew how to grow them at the rate of 1000 bushels per acre, and such yields can be secured with less work than will produce 100 barrels of potatoes.

If it is true of us, as an English authority on roots states was told him of Americans, that no American would bend his back to hand-hoe, then we must devise some other practice to take its place, for it is but too true that the production of roots and root seed is limited rather by the labor supply than by any other cause and the necessity of new methods of culture in the farm-management scheme is apparent. Fall preparation of the soil, early sowing, early thinning and the introduction of horse labor wherever possible, are the chief ways of effecting changes which will tend to increase both the acreage and acre-yield.

The varieties of roots grown as food for live-stock in this province are:—Swede turnips, mangels, carrots and soft turnips. No one variety should be grown to the exclusion of all the others, a better plan is to grow the greater acreage of that variety which is best suited to your immediate locality, to your particular needs and the class of stock receiving them. Thus a portion of the root land would be sown to soft turnips for early fall feeding if one were engaged in dairying, while if hogs were also kept, a portion of the root land should be sown to mangels, even though the locality were especially favorable to Swede turnips.

The root crop should follow a hay crop or clover sod plowed four or five inches deep as soon as possible after haying rolled and harrowed for the purpose of rotting the sod. Later in the season manure should be spread, say, about twenty-five loads per acre, and the ground again plowed, this time deeper than before.

If manure is not available at any time during the fall, then the ground should wait until spring before replowing, when the manure should be applied and plowed under.

Roots are gross feeders, so to speak, converting a large amount of manure into vegetable produce.

Mangels in particular respond to generous applications of barn-yard manure and to mineral nitrogenous manures.

The following table of results, taken from a thirteen years' experiment at Askov. Experiment Station, Denmark, will show the response of mangels compared with potatoes, to commercial fertilizers or manures.

	Commercial Fertilizers. Yield.	Manure. Yield.
Mangels.		
Clay Soil	100%	91%
Sandy Soil	100%	78%
Potatoes.		
Clay Soil	100%	99%
Sandy Soil	100%	88%

Heavy applications of nitrate fertilizer greatly increase the amount of leaf or tops of both mangels and turnips, but where the amount of nitrate is in excess of the phosphate and potash salts, the quality of the root is injured.

The mangel requires a specially favored soil,—deep, friable and fertile to yield its maximum growth. On weak land, even though heavily manured and with commercial fertilizers in addition, it does not yield heavily. It is thus adapted to favored localities where a good system of farming and cultivation is observed. Under such conditions it is not dependent upon summer moisture conditions, i. e., drought; but mangels will not thrive during cold or wet summers.

Turnips do comparatively better on the poorer and less cultivated soil, giving good yields during cool or wet seasons; these in turn suffer from heat or drought during summer and make greatest growth during late fall.

Carrots require intensive culture. The seeds are smaller and are slow to germinate, and the seedlings are small and weak until after mid-summer and make the largest part of their growth following late summer.

Sowing in drills should be the exception, not the rule, though on flat land or where drainage conditions are not good, or where weeds are very persistent, cultivation can be given earlier when in drills.

Flat culture is cheaper, as the spike-tooth harrow may be used for thinning, and usually a better stand of roots is secured. Moisture is also better conserved.

Long varieties of roots should be planted on deep soils or where drilling is practised. Short varieties are suitable to shallow or poorly drained land.

Early sowing has two points in its favor worth keeping in mind:—(1) Should germination of the seed be poor or should the stand be destroyed by insects,—reseeding can be relied upon to give a partial crop.

(2) It gives greater yields than later sowing.

Results of experiment in seeding dates.

Swedes sown	May 8th,	Yields	35.9 tons
" "	June 8th,	"	24.4 "
Mangels "	May 8th,	"	35.4 "
" "	June 8th,	"	16.5 "
Carrots "	May 8th,	"	28.7 "
" "	June 8th,	"	18.8 "

Thick seeding insures a good stand. The amount of seed recommended to sow, is therefore greater than is usually considered sufficient, viz.:

Mangels, 12—16 lbs.
Turnips, 3—4 lbs.
Carrots, 2—3 lbs.

The germination of carrot seed can be hastened considerably by placing it in a moist dish for several days before sowing.

Where flat culture prevails, harrow the plots crossways about two weeks after planting, and again four or five days later. A wheel hoe should be used as soon as plants appear well established.

Carrots do not require thinning with a hoe, but a heavy garden rake can be used to advantage.

Singling of turnips and mangels should be done early at distances, viz.,

Mangels, 8"—10".
Turnips, 10"—12"—14".

The after cultivation should be such as to keep a mulch, even if the land has been at first well worked and weeded.

Harvesting of mangels should be done before wintry weather begins, but light frosts do not harm them.

The tops should be wrung off and left on the ground. If four rows of roots be thrown together, loading is easily done.

The percentage of dry matter in the tops of mangels is much less than that in the root and they are of less value than either turnip or carrot tops.

Several methods are used for harvesting turnips and carrots besides hand-pulling.

The tops of turnips are sometimes cut off with a short-handled hoe, gathered and loaded into a wagon, then the roots are plowed out, and a spring-tooth harrow turned upside down, is drawn over them once or several times to clean them, or they may be lifted with the potato digger,—(Hoover type), and then drawn to the cellar.

Carrots may be quickly harvested by running a plow close to the row, throwing the furrow away from the row, and then pulled, throwing the roots directly into the cart. Topping is done when unloading at the barn.

Carrot tops have the same feeding value, pound for pound, dry matter, as the roots, while fifteen pounds of turnip tops are equal to ten pounds of the root.

Carrots make an excellent dietary food for horses and have a special value for warding off colic, and when fed during attacks of distemper or other throat diseases.

Swedes are excellent for horses also, up to eight or ten pounds daily.

Mangels do not in any way cause bad flavors in milk, and are eaten by cows when refusing nearly everything else, hence they are one of the best articles of diet that can be fed to a cow giving milk.

Sugar mangels are valued for pork production, the Rose type being recommended, as the sugar content is usually higher.

A disease known as Club-root is becoming more or less common on farms where turnip-growing has been long practiced. This disease rarely attacks the soft turnip and never the mangel, sugar beet or carrot.

The spores remain in the ground for seven or eight years, and it is possible to spread these by the transference of parts of affected turnips to other fields, or by the use of manure from stock which has been fed on the diseased roots.

The disease is not introduced through the seed, but is sometimes harbored by allowing such weeds as Mustard and Wild Turnip to grow unchecked.

Control.—Boil all affected roots which are fed to stock. Keep down all weeds. Avoid using manure for roots which may contain the spores.

Liming the soil at the rate of 100 to 150 bus. of air-slaked lime per acre is a remedy. This should be distributed the year previous to sowing and should be plowed under. Avoid using acid fertilizers, as these neutralize the effect of the lime.

To those farmers who desire to cultivate roots the following conclusions are presented:—

That roots, generally, can be raised more cheaply in New Brunswick than in any latitude in which corn and alfalfa form the chief succulent foods.

If it is impracticable to have a silo on the dairy farm then roots are needed as a succulent feed.

The introduction of extensive root-growing into our rotations is one of the greatest improvements practicable to our farm practice. Cultivation of the root crop clears the land of weeds and also makes available a more extended root-range for other crops in the rotation, by means of their extensive root systems.

O. C. HICKS,
Department of Agriculture,
Fredericton, N. B.

GET THE FARMERS' STORY

Housewives' Leagues are being organized in a great many of the cities, towns and villages of the Maritime Provinces. The idea is a good one, but judging by the line of argument advanced by some of the promoters and members of the leagues, they have a rather restricted—shall we say entirely wrong idea of the part the farmer plays in the high cost of living. We would suggest that the Departments of Agriculture of the various provinces secure the services of a practical woman, who will appear before the various leagues to give the true, concise story from the farmers standpoint. League members have much to learn in regard to the cost of production on the farm.

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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APRIL 24, 1917.

DATES OF ISSUE.

May 8-29
June 12-26

INCREASED FARM PRODUCTION

The Halifax Board of Trade will award prizes for each of four competitions in the following districts of the Province of Nova Scotia.

District 1—Annapolis, Kings, Hants, Lunenburg, Halifax.

District 2—Digby, Yarmouth, Queens, Shelbourne, Guysboro.

District 3—Colchester, Cumberland, Pictou, Antigonish.

District 4—Inverness, Victoria, Cape Breton, Richmond.

EVERY FARMER, who is trying to meet the demands of the year, is urged to enter the competition in the District in which his farm is situated. No entry fee will be charged, but it is expected that each farmer will continue in the competition for a period of two years. Even if you no not win a prize, you should enter if for no other reason than the opportunity it will offer to talk over your farm management with the judges.

The prizes for the first year, in each competition will be:

1st, $50.00; 2nd, $30.00; 3rd, $20.00; 4th, $15.00; 5th, $10.00; 6th, $5.00.

Prizes will be awarded on the basis of the judges' report upon the following particulars:

(a) Best yield per acre of any three of the following crops; wheat, oats, beans, potatoes.

(b) Largest proportion of cereals and hoed crops to hay land.

(c) Condition and numbers of live stock.

The following committee will have charge of the competitions:

M. Cumming, Secretary for Agriculture; S. J. Moore, Dominion Seed Inspector for the Maritime Provinces; F. L. Fuller, Superintendent of Agricultural Societies and Associations.

ENTRIES may be addressed to F. L. Fuller, Truro, or E. A. Saunders, Sec. Board of Trade, Halifax, and should be mailed not later than June 1st. Write to either of these gentlemen for further information.

NOTES: Next to fighting itself, the most important contribution that can be made towards winning the war is food supplies.

Proportion of crop acreage—not total acreage—counts. The small farmer has as good a chance to win a prize as the large farmer.

There should be very large number of entries from each district in this competition.

TO THE DAIRY COW

W. E. Vaplon, State Leader Boys' and Girls' Clubs, Colorado Agricultural College, Fort Collins, Colorado, gives the dairy cow the following tribute:

The dairy cow, long may she wave her fluffy tail her hide to save from gnat and fly and such like pest that seem to like to break her rest. It's she that brings the monthly check for cream she offers by the peck; it's she that often saves from wreck, the farmer who is wise, by heck! The farmer who's afraid to dig, or who to milk cows is too big, the one who'd rather chew and sit or shoot and spit tobacco spit, the kind whom farming doesn't fit, will keep on going into debt, it's just as safe as spuds to bet, while neighbor Jones with twenty cows will chase hard times to the bow-wows. To farm these days of high-priced land, you've got to plan to beat the band. To meet the price of high-priced tools and self-adjusting milking stools is surely not the job of fools. The farmer who will crop his land each blooming year for all 'twill stand and will not heed the just demand for something in return will stand at last before the judgment bar and wake up with a polting jar. You feed your horse hay and oats, you even feed your lambs and shoats and then you wonder why the land should make a fuss and grow a stand that's not enough to feed ten goats. Put back into the soil, my friends, some of the elements it lends. Remember 'tis the cow and hog that give your bank account a job, that fertilize your worn-out soil and help the mortgage man to foil.

A DEALER ON WOOL PRICES

At a convention of woolen and worsted manufacturers, held recently in New York, some interesting remarks were made by A. W. Elliot, a member of the firm of Jeremiah Williams & Co., the largest wool dealers in America. Mr. Elliot said:

"I believe that high prices for wool have come to stay for a long time. I do not mean to say that the present famine prices are to prevail during the next ten years. I do believe, however, that prices during the next ten years will average very much higher than during the ten years preceding the war. Hundreds of millions of pounds of wool, which, in the ordinary course, would last on a man's back for three or four years, have been rendered unsless in two or three weeks or a mouth. A great deal of it, I am assured, will never reappear even in the shape of shoddy. Millions of sheep in France and Belgium, in Germany, Austria, Russia, Turkey and the Balkans have been slaughtered to feed the contending armies. The figures from France only are available. In two years her sheep have decreased one-third.

"The great manufacturing districts of continental Europe, France, Belgium, Germany, Austria, Poland are bare of wool to-day, and when the war is over it will take hundreds of millions of pounds of wool to start their machinery, and it will take 1,000,000,000 pounds additional to restore to somewhere near normal the clothing stocks of the people of Europe.

"Just as long as the price of wool and of mutton is remunerative, I look to see an expanding and increasing sheep industry all over the world. You need fear no sudden glut of wool. Taking into consideration that the clip of Australia owing to the drouth is short 175,000,000 pounds of what it was two years ago; that the clip of South Africa is short for the same reason, and to a limited extent the same is true of South America; taking into consideration that vast numbers of sheep have been slaughtered in continental Europe, it will probably be several years before the clip of the world is as large as it was in 1913 and 1914."

Get in touch with your nearest Wool Growers' Association, and enter your wool for co-operative sale. We have no hesitation in saying that you will in this way realize top notch prices for your clip. When you sell your wool in the old way, you get the lowest possible figure for it and the middlemen reaps fat profits that is within your reach, if you grasp them.

ENEMY TAKES NO HOLIDAY, WHY SHOULD PLOUGHMAN?

In an effort to stir the English farmers and workers on the land to a realization of the danger of starvation that, he says, threatens the country, Sir Arthur Lee, Director-General of Food Production in England, a new department created as a result of the intensified submarine campaign, has issued this appeal:

"To all ploughmen and workers on the land: In the trenches German shells come over on Sundays as well as on weekdays. German submarines are just as active on Sundays as on any other day. The enemy takes no holidays. He uses every hour to destroy your country and will your brothers.

"Will you not work every hour from daybreak to dark—weekday and Sunday—for the next few weeks? Your work now may make just the difference between winning the war and losing it."

Sir Arthur's appeal speaks volumes for the seriousness of the food situation in England. "We have got to do our maximum amount of planting by the end of April," he said. "We have got to work Sundays and holidays or our crop will not be a success. It is our best answer to the submarine menace and the sooner the people realize it the sooner will they conquer the danger of starvation."

Sir Arthur is making stupendous efforts to carry out his programme of tilling the soil and planting all the seed possible by the end of April.

We agree with Sir Arthur that every effort should be put forth to raise bumper crops in 1917. The farmers of the Maritime Provinces will do their part. They may take their customary rest on Sundays, but their efforts will be redoubled during the other six days of the week.

Sir Arthur knows the problems that confront the British in supplying food to their soldiers in training and on the field of battle. We trust that the boys who are remaining at home will put forth every effort to make the best use of the golden hours, early and late. On the other hand employers should see that they do not take undue advantage of their men, but pay them a scale of wages commensurate with the hours of labor.

THE WHITE-MARKED TUSSOCK MOTH

Hemerocampa leucostigma. Sm. & Ab.

In New Brunswick, at least three kinds of Tussock Moths occur, Notolophus antiqua, the rusty Tussock moth; Hemerocampa definita, Definite marked Tussock Moth; and Hemerocampa leucostigma, the white-marked Tussock Moth. The two species first named are very generally distributed over the Province, but do not occur in sufficient numbers to cause great damage. The white-marked Tussock, while not so evenly distributed throughout New Brunswick, is a far more dangerous insect than either of the others. It seems to thrive best in towns, villages and thickly populated districts. It is claimed that the reason for this is the protection afforded by English sparrows which drive away the native birds that formerly destroyed the caterpillars of this moth.

Halifax, Charlottetown, Montreal, Toronto, Hamilton and other Canadian cities have had serious outbreaks of this insect during the past few years, and in a great number of the cities and towns of the eastern United States it has been a veritable scourge. White its activities were more marked in the more populous centres, in 1908 very serious damage was done to the apple orchards in some sections of New York State, a number of growers estimating their loss at twenty-five per cent. of the total crop. In the past ten years there have been numerous records of damage to fruit trees by this pest.

Lately, this insect has been increasing very rapidly in south-eastern New Brunswick, and last summer (1916), the Tussock caterpillars appeared in immense numbers in the city of Moncton and vicinity. Throughout the summer they did a great deal of damage to shade trees, and caused much inconvenience to citizens by swarming into houses and places of business. In one or two cases, families had to leave their homes to escape the caterpillars which could not be kept out of the houses.

Life History and Habits

This insect passes the winter in the egg stage. The egg clusters are conspicuous white masses, usually containing from one hundred to over four hundred eggs covered with a hard frothy substance. The eggs hatch in late May or early June and the tiny caterpillors feed upon the soft tissue on the underside of the leaves. As they increase in size they eat holes through the leaf, and when full grown devour every part of the leaf except the main ribs. The larval stage lasts five or six weeks, the caterpillars casting their skins five times. When they are nearly ready to pupate, they sometimes crawl to a considerable distance, and in this way spread to other trees. In July, the caterpillars are full grown and ready to pass into the pupal stage. They form their cocoons on the bark of the trunk or larger branches of a tree, although the cocoons may be found on fences, buildings, telephone poles, etc. The insects remain in the cocoon about two weeks. The male, upon emerging, flies off seeking for a mate. The female is wingless and therefore cannot fly; but while she can crawl a short distance, she usually remains upon the cocoon from which she emerged. She deposits her eggs on the empty cocoon and shortly afterwards dies. The difference between the male and female is well shown in the illustration. These insects do not eat in the adult stage.

Food Plants.—The white-marked Tussock Moth feeds upon a great number of deciduous trees and shrubs, including fruit trees.

Distribution.—It is found from Jacksonville, Florida, to Northern New Brunswick and Quebec, and west to Nebraska and Oregon.

Description.—The various stages of this insect are shown in the illustration. The full grown caterpillar (a) has a coral red head, a pair of long, black plumes just over it, another tail-like plume at the end of the body, four yellowish-white tufts or tussocks on its back and just behind these two small retractile red tubercles. Along the back there is a broad, black band bordered by narrow, yellowish stripes. The sides are dark grey with a black line indicating the position of the breathing pores. Below this the body is yellowish.

The female is about five-eighths of an inch in length, grey and wingless.

The male has feathery antennae and a wing spread of about one and one-quarter inches. The wings are marked with several shades of grey and greyish-white.

The eggs, as already stated, are deposited on the empty cocoon and covered with a mass of frothy matter which forms an effective protection for the eggs.

Tussock Moth in all stages.

Tussock Moth; full-grown Caterpillar.

White marked Tussock Moth.

Remedies

The most effectual methods of controlling this insect are (1) destroying the egy clusters; (2) poisoning the food of the caterpillars by spraying.

One of the most satisfactory and economical remedies for this pest is gathering and destroying the egg masses. In the United States, where this work is done on a large scale, the men use a small hoe blade mounted on the end of a long pole. The egg masses are dislodged by means of this implement, carefully collected and burned, (for if left on the ground they will hatch).

(2) Another method is to wet the egg masses on the tree with crude creosote by means of a sponge attached to a long pole. The creosote destroys the eggs and discolors the egg mass so that it is easy to distinguish the treated from the untreated eggs. This treatment is not effective unless the egg mass is thoroughly saturated with creosote.

While the above methods are advised for the suppression of these insects on the shade trees in towns, for the gruit grower, spraying is preferable. A thorough spraying of the fruit trees with lead arsenate—three pounds to fifty gallons of water—will be found effectual; or better still, spray with poisoned Bordeaux or sulphur, as recommended by the Horticultural Division. By applying this spray early in June, the young Tussock caterpillars are destroyed along with other fruit tree pests, which usually attack the trees at that time.

In New Brunswick last year, the most serious insect outbreak was that of the White Tussock Moth. It was particularly plentiful in the eastern and southeastern counties, doing much injury to fruit and shade trees. This insect when allowed to increase, has proved exceedingly destructive in Canada and United States.. Therefore, the Government desires to draw the attention of fruit growers and others to its presence, and asks for their co-operation in destroying this pest. Every egg cluster collected means the destruction of from 50 to 300 caterpillars. Therefore, gathering and burning the egg clusters is the easiest and most effective method of destroying this insect.

THE N. B. AGRICULTURAL SCHOOLS

Shore Courses During February and March Most Successful

In spite of war conditions and the general scarcity of labour necessitating the presence of every man on the farms that is obtainable, there was a most gratifying attendance of students at the several Short Courses of Instruction arranged by the Provincial Department of Agriculture at Sussex, Woodstock and Chatham.

Although the disorganization of the staff of the Department, due to enlistment, cut down the number of teachers available the Minister was, fortunately, able to secure help from the Federal Department that filled in the gap and brought to the teaching service, men of proven ability and experience in their several fields.

Prof. J. W. Mitchell, Live Stock and Dairy Commissioner, was placed in charge of the arrangements and very much of the success of the work is due to his efficient management and teaching ability. Local co-operation by the leading men of the several districts also helped materially in the furnishing of Live Stock and encouragement of attendance.

In this connection special mention should be made of Messrs. N. W. Eveleigh at Sussex, Peabody Brothers and Frank Peabody and Col. J. F. H. Dibblee at Woodstock and at Chatham of President George E Fisher and practically all the members of the Northumberland Agricultural Society. Here also the staff and students were invited by Mr. R. A. Snowball to use his barns and live stock for practical demonstration work which materially aided the Course, and he further added to the pleasure of the occasion by entertaining all who attended to luncheon at mid-day.

Among the Federal officials who lectured were Messrs. G. C. Cunningham, Dominion Plant Pathologist, the leading Canadian authority on plant diseases and potato growing; G. E. O'Brien in charge of the Sheep Development work for the Maritime Provinces; W. W. Baird, Supt. of the Experimental Farm, Nappan, N. S.; W. W. Hubbard, Supt. of the Experimental Station, Fredericton, and H. N. Flewelling in charge of Cow Testing work in New Brunswick. Mr. Baird has shown himself to be one of the best live stock men in Eastern Canada, and as a demonstrator with horses, cattle, sheep and swine, has few equals in his field. Mr. Hubbard from his long experience with New Brunswick conditions and his opportunities for investigational work, brings valuable information on soil and crop problems and live stock feeding. Mr. Flewelling, who in addition to his official duties is conducting the large dairy farm and herd of Colonel H. Montgomery Campbell, at Apohaqui, and thereby gaining daily experience of immense value to dairy farmers, gave an especially practical address at Sussex.

Prof. Mitchell gave meaty and up to date talks on the importance of live stock husbandry and all branches of dairy work, including not only the technical work of manufacturing, but also the feeding and stable management of dairy cows and the care of milk and cream and manufacture of butter on the farm. He was assisted in the practical demonstration of butter making, &c., by Messrs. N. W. Eveleigh and C. W. McDougall.

Mr. O. C. Hicks took the Cereal, seed growing, root growing, &c., branches of the work, demonstrating with practical work in seed judging selection of roots, &c., for seed growing.

Mr. H. B. Durost talked on Fertilisers and gave practical demonstrations on home mixing, and at Woodstock took up Bee-keeping as well.

Mr. A. G. Turney, Provincial Horticulturist, assisted by A. C. Parker, gave the instructions in fruit growing and took the classes out to nearby orchards for practical work in pruning and orchard management.

Mr. Seth Jones, Provincial Poultry Superintendent, took up all phases of the poultry industry, giving demonstrations in killing and dressing.

Messrs. Cunningham, Turney, Hubbard and Jones illustrated some of their lectures with lantern slide pictures, a feature of the work which seemed to be much appreciated.

Preceding these courses, Messrs. J. W. Mitchell, W. W. Hubbard and N. W. Eveleigh spent practically the whole of January attending Agricultural Society Meetings in various parts of the Province, extending from Bathurst in the north to Elgin in the south.

Remember there are a few matters of detail which, if properly attended to at this season of the year, yield handsome returns. It will pay you to the attention to little things that count.

HORTICULTURE

THE BEAUTIFYING OF THE HOME GROUNDS AND THE GARDEN PLOTS

An Interesting Paper on Hardy Flowering Shrubs Read Before the Fredericton Science Club by Mr. L. C. Box, Horticulturist at Experimental Station.

At the fifth monthly meeting of the Fredericton Science Club, which was held in Fredericton, Wednesday evening, March 14th, at the residence of Professor and Mrs. R. B. Miller, an excellent and very timely paper on Ornamental Shrubs for New Brunswick Gardens was read by Mr. L. C. Box. Mr. Box is the hirticulturist in charge of the work in ornamental and landscape gardening at the Dominion Experimental Station here, and also a fellow of the Royal Horticultural Society of England, and is well qualified to speak with authority on this subject. And, since the subject is one which interests, or should interest, every home, Mr. Box' paper is here reproduced as given:

Paper Read by Mr. Box.

The subject which we have under consideration tonight is, unfortunately one about which very little appears to be known in this province, and, if I can arouse your interest in the planting of hardy flowering shrubs and the beautifying of the home grounds and gardens, I shall feel that I have accomplished something worth while.

The planting of hardy flowering shrubs, whether it be in large ground or small gardens, involves a certain amount of artistic skill in the selection and arrangement of plants suitable for the purpose, no two instances calling for exactly the same treatment. In the case of shrubs, foliage as a rule plays a more important part than the bloom which lasts but a short time at most. Good effects in grouping shrubs generally depend, therefore, upon harmony or pleasing contrast in foliage and, to a smaller degree, on the flowers or fruits. Again, the grouping of certain shrubs which in one instance would produce an artistic effect, would in another look quite out of place; so, therefore, it is necessary to select and arrange the shrubs according to the general layout of the house and surroundings. And let me say that the outlay of money in this connection should not be considered in any way as an expense, but rather as an investment, for, by the judicious planting of trees and shrubs, the property is beautified and made more attractive.

Shrubs Which Bear Fruit.

An argument in favor of planting hardy flowering shrubs which bear fruit, particularly where it remains on the bush during the winter, is that we are co-operating in preserving the balance of nature which man in his unwisdom appears to be constantly trying to upset.

In the development of the flower and in the perfecting of the fruit nature's objective is definite. It may be set forth as an axiom that, in the diversity of form among flowers, nature's endeavor is mainly to insure their fertilization through the agency of the insect world: in the perfecting of the fruit it is toward making it attractive to the birds so as to insure through their agency the dispersal of the seeds. The birds, in their turn, assist in the prevention of a too rapid multiplication of insects, which, if unrestricted, would mean tremendous loss to mankind.

Hardy flowering shrubs develop very quickly and are, therefore, indispensable where it is desirable to make an immediate showing.

A good shrub collection will present the greatest variety of color throughout the season both in flower and foliage. Even in winter many shrubs are attractive because of the gracefulness of their stems and branches and color of the bark. Many varieties also bear highly colored and showy fruit, which, in many instances, hangs on the entire winter.

Preparation of the Soil

I think perhaps it will be as well to say a few words as to the preparation of the soil and planting before speaking of the different varieties. The soil should be thoroughly spaded and enriched with well rotted barnyard manure. The holes should be made of ample dimensions and deep enough so that the roots can spread out and so that the plant will stand in the same position as when growing in the nursery. More trees and shrubs are lost by deep planting than by shallow.

Now take the tree and place in posiiion and sprinkle fine soil among the roots, shaking the tree a little from time to time so that the soil is worked well in. It is important to pack the soil very firmly around the plant so that all the roots will come in contact with the fresh soil. When the roots are well covered, the earth should be tramped firmly. Put in more earth and tramp again. The last two or three inches of earth should not be tramped, leaving it loose for the rain to be taken in. Do not round up the earth about the tree lest the water run off. Often failures are prevented by mulching the new planting with decayed leaves or well rotted manure so as to preserve the moisture in the soil during the dry, hot days and to prevent the alternate freezing and thawing in the winter.

If the weather is dry late in the spring or early in the fall, water may be poured in about the tree; otherwise watering is seldom necessary.

Some Hardy Shrubs.

In making up the following list I have selected only those shrubs which are quite hardy and of easy cultivation. All shrubs mentioned in this list are grown down at the Experimental Station, and if, during the coming spring and summer, any of you would like to come down I shall be only too happy to show you what we have and what we are doing in the way of ornamental gardening. I have taken the shrubs in alphabetical order for convenience, and on the first list is:

Amelanchier, Shad Bush or Juneberry—This shrub or small tree blooms very early in the spring, very often before the leaves appear.

Amelanchier Botryapium is a graceful, slender variety, bearing snowy white flowers in great profusion.

Berberis or Barberry—Of the Barberries, Berberis Thunbergii is perhaps one of the most ornamental. It has handsome shiny foliage, changing to coppery red in autumn. The flowers are insignificant, but are followed by bright red berries in great profusion, remaining on the bush throughout the winter. The shrub is of dwarf habit and is excellent for hedges.

Beautiful at All Seasons.

Berberis aquifolium—The holly-leaved Mahonia is beautiful at all seasons of the year. In winter the prickly shiny leaves take on a bronze and crimson tint. In the spring the whole picture changes and the polished leaves are green once more. It is perfectly hardy, a fairly rapid grower, with attractive yellow flowers in the spring, succeeded by purple berries in the autumn. Altogether it is one of the most satisfactory shrubs grown.

Calycanthus Floridus, or Strawberry shrub, is an old-fashioned, interesting shrub, having a rare and peculiar fragrance of wood and flowers. Its blooms are abundant and of a peculiar chocolate color.

Cornus: Dogwood—Most of you are familiar with the common dogwood, or, as it is sometimes erroneously called, "red willow," which grows freely along our roadsides, so I need say nothing about it, but I would like to call your attention to another variety which is worth growing, Cornus sibirica flaverimmea, which has greenish yellow stems and somewhat larger panicles of creamy white blossoms.

Corchorus japonica, or Kerria, is a handsome small shrub, flowering freely through the summer, bearing single yellow flowers. There is also a double form, the flowers of which are a little deeper in color.

Crataegus, or Hawthorne, is also fairly well known. The sweetly scented flowers are followed by bright red berries.

Profuse Bloomers

We now come to the Deutzias, a group of hardy and easily grown shrubs. All the Deutzias are very profuse bloomers. The following three varieties are especially valuable as ornamental shrubs:

Deutzia crenata fl. pl., an extremely hardy free bowering shrub of upright branching growth, luxuriant foliage and handsome double pure white flowers in erect panicles.

Deutzia gracilis Lemoinei—This is a cross between Duetzia gracilis and Deutzia parviflora and, although retaining to some extent the dwarf habit of the former, it is more graceful and vigorous; the pure white flowers are also larger and more numerous. This is altogether one of the finest of our dwarf flowering shrubs.

Deutzia Pride of Rochester—A tall-growing variety that completely obscures the plant with quantities of pure white double flowers. It is very beautiful and effective, whether grown as a single specimen or in groups.

Earliest Bloom in Spring.

The next shrub, Forsythia or Golden Bell, is one of the very earliest to bloom in the spring, when nearly all other shrubs are still dormant, producing masses of deep golden blossoms, at a time when flowers of any kind are particularly desirable. Two varieties are especially worthy of mention, viz.: F. Fortunei, which blooms in dense masses early in spring, and F. Suspensa, another fine early variety of pendulous habit, covered with drooping yellow blossoms.

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After the Golden Bells we have the Silver Bell or Halesia tetraptera, also called Snowdrop Tree. This is a beautiful flowering shrub producing, as soon as the leaves appear, a great number of large crowded clusters of beautiful pure white bell-shaped flowers.

The Hydrangeas hardly call for any comment as there are quite a large number planted in and about the city.

We next come to the Bush Honeysuckles, three varieties of which are worthy of note:

Lonicera Fragrantissima—A handsome shrub of strong growth bearing fragrant white flowers early in the spring.

Lonicera Morrowi has a rather more spreading habit of growth than the preceding. It also bears white flowers in the spring, followed by numerous bright red berries until the fall.

Lonicera Tatarica, or Tartarian Honeysuckle, has bright pink flowers in early summer, followed by orange scarlet berries in the fall.

An Old Favorite.

We now have to consider one of the most important flowering shrubs grown, and that is the Philadelphus, frequently called Syringa or Mock Orange. It is an old favorite on account of its fragrant beautiful white blossoms produced in great profusion, whether planted in partial shade or full sun. Most of the members of the genus are hardy and easily grown, requiring very little attention when once established. If pruning is needed it should be done after flowering, since the flowers appear on the wood formed the previous year. Usually propagation is by hardwood cuttings or by suckers and greenwood cuttings under glass; also by layers and by seed, but when several species are growing together they are likely to hybridize.

Bouquet Blanc is a comparatively new variety of vigorous upright growth. The flowers are almost double and are produced in dense clusters. In effect it is not unlike the Japanese Snowball.

The Fragrant Syringa.

Coronarius is the well known fragrant Garland Syringa, and is, undoubtedly, one of the best flowering shrubs we have. It grows to a height of ten to fifteen feet and is absolutely hardy.

Grandiflorus—The large flowered Mock Orange is a more robust growing form of the preceding variety with larger, more conspicuous flowers.

Lemoinei, another variety of this group, growes to a height of six feet and produces small fragrant flowers of a yellowish white color, which completely cover the bush.

Another important group is the Spiraeas. All the Spiraeas are valuable for their easy culture and floriferous character and their adaptability to widely varying conditions.

Spiraea arguta—This variety is one of the earliest and most graceful of the genus. Its slender branches become covered with innumerable pure white tiny flowers early in the spring.

Bumalda—A dwarf Japanese variety of vigorous growth, having pink flowers in July.

Callosa—Grows freely and flowers nearly all summer. Deep rose.

Anthony Waterer—Brilliant rosy carmine flowers borne in dense clusters all summer.

Opulifolia—Strong growing shrub with white flowers in small panicles along the stem.

Profusion of White Clusters.

Van Houttei—By many this is regarded as the finest of all Spiraeas, and it is assuredly one of the most esteemed shrubs in cultivation. It forms an erect bush with graceful arching branches, well covered with neat rich green foliage and, in early summer, a profusion of large pure white flower clusters.

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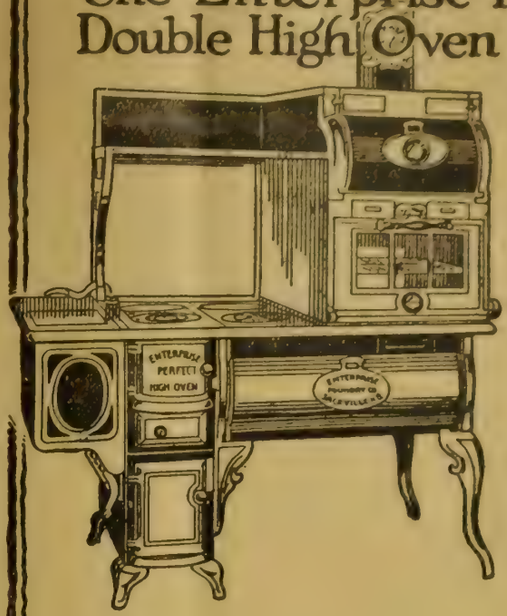

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Marie Legrave—Large panicles of white flowers; the finest white lilac.

Madame Casmir Perier is a particul-

Madame Casmir Perier is a particularly fragrant variety, bearing large panicles of double creamy white flowers.

I need say nothing about the Viburnums, as nearly everyone knows the Snowball or Guelder Rose and the High Bush Cranberries.

The Weigelas are a useful group for decorative purposes. They thrive in moist and partly shaded situations. Weigela hybrida Eva Rathke is, probably, the best selection, having brilliant crimson flowers during the summer.

Before I close, I think it will not be out of place to say a few words about Roses and their cultivation, as the Rose may be fairly classed among the flowering shrubs.

The first step is to select, if possible, an open situation, i. e., where the plants will get plenty of air and sunshine, yet sheltered, also from high winds. The rose garden must not be situated under the branches of trees and should be placed well away from all tree and shubbery growth.

A south-eastern exposure is, probably, the ideal one in which the rose garden will reach its fullest development.

The ideal soil is what may be termed a clay loam, but it should be sufficiently porous to permit the ready drainage of surplus water. The beds should be properly dug to a depth of eighteen inches and well rotted barnyard manure thoroughly incorporated with the soil. If the plant has been budded low say within two or three inches of the root, it should be set so that the junction of top with root stock is about one to two inches below the surface of bed. The roots should be carefully spread out, fine soil worked in around them and tramped down firmly, leaving the top

(Continued on page 408)

STRAWBERRY PLANTS !

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DAIRYING.

JUDGING DAIRY COWS BY QUALITY OF THEIR UDDERS RATHER THAN BY THEIR SIZE

The word skeleton brings to mind the framework of bones that supports an animal in its characteristic form. But there are animals that possess a definite form yet have no bones —worms, for instance. There surely must be something in worms that gives support and form to their bodies. Protoplasm, the living substance out of which animals are made, is much like the white of eggs in many ways. So it is easy to see that an animal made of nothing but protoplasm would have just about the shape of so much water—the form of which depends on the receptacle containing it. It is this way with animals and with all parts of animals.

The "receptacle" that contains the protoplasm out of which the animal is composed is the thing that gives form and support to the animal. The "receptacle" is called the connective tissue framework and for the greatest part it is composed of lifeless material. Its structure is fibrous, much like a sponge cut to the shape of the animal in question. If some parts of this sponge-like framework are impregnated with lime salts they will be hard and called bones. The remainder of the sponge-like framework is of use in connecting all parts of the body and holding them to the bones. For this reason it is called connective tissue. So it is seen that an organ like the udder of a cow has a skeleton or connective tissue framework composed mostly of lifeless fibres and just as powerless to produce milk as the hair on the end of the cow's tail. But if this framework were suddenly removed the soft, living, milk-producing parts of the udder would have nothing to cement or hold them together and they would drop off and spread out on the ground just like a monster pancake.

The quantity of glandular or milk producing tissue in proportion to the quantity of connective tissue determines the quality or texture of the udder.

It is not uncommon to find a large udder on a cow that is a small milk producer. At other times a small udder will produce milk exceeding in quantity that of the large udder. Such conditions do not hold with the idea that the quantity of milk depends on the size of the udder.

A large udder may have in its composition a superfluous amount of connective tissue. That is, it consists largely of framework and that lifeless framework can not produce milk. In such cases the glandular or milk-producing parts seem to occupy a position of secondary importance in so far as bulk is concerned at least. Of course, udders of this nature have bad texture, although from a superficial examination they may appear to possess many of the points that a good udder sh uld have.

The surprising condition of small udders secreting an abundance of milk is accounted for by the fact that these small udders have a small amount of connective tissue framework, possibly just sufficient to hold the parts together and preserve the form of the gland while the glandular elements are in a state of high development. Such udders have good texture, although their form may be greatly defective when compared to the ideal.

The quantity of glandular substance determines the quantity of milk produced; the more glands the more milk.

The milk glands of a virgin animal are greatly undeveloped and they do not reach their most productive state until after the lactation period is well established.

If the gland is empty it should look empty. Good texture permits the skin to fall in many loose, oily folds, which are not conspicuous if the texture is bad.

To the touch the skin is thin, oily smooth and soft. It will stretch easily and does not cling to the body of the udder. When the texture is bad the skin is thick and heavy and is too firm under pressure from the fingers.

If pressure from the hands is brought to bear on the sides of the udder, something concerning the character of the deep parts can be discovered. The quality is bad if the center of the gland seems to be a hard mass of unyielding tissue. Various diseases and injuries may cause hard lumps, abnormal growths of connective tissues which contribute to the worthlessness of the organ because they cannot make milk and they crowd out the tissue that can. Not infrequently hard, plate-like formations of a bony nature can be felt in the connective tissue just beneath the skin. On the other hand, an udder in the fully secreting state shows its good texture by a delicate softness that is characteristic. In the lower parts just above the teats it is extremely light and soft and yielding, while throughout the upper part it is firmer but spongy and elastic. No place are there any lumps or solid compact masses.—V. E. LeRoy in American Exchange.

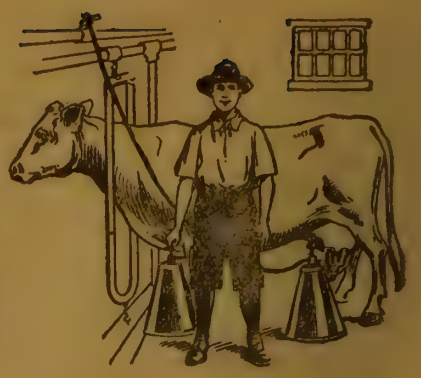
FEEDING DAIRY COWS FOR THEIR MILK AND VITALITY

The failure of cows to breed regularly is becoming more common from year to year, and on many dairy farms is dissipating the profits. This lack of vital power, for such it seems to be, is more prevalent on farms where large quantities of purchased concentrates are fed to the cows than on farms where the cows are fed more farm-grown feeds. Cows that must be bred several times before becoming pregnant seldom freshen at the desired season, lessen the supply of milk when needed, and cause a general upsetting of the dairy farmer's plans. In extreme cases abortion sweeps through the herd and ruin the better cow.

It is not the intention of the writer to pose as a medical expert, but rather to call attention to the importance of proper feeding to maintain the reproductive powers of dairy cows. It is claimed by many dairy experts that in the case of heavy-milking cows the cause of shy breeding is the fact that so much of their feed goes to make milk that the reproductive organs are improperly nourished, and therefore too weak for maternity. This condition, however, is greatly intensified by improper feeding, so that after all it brings us back to the question of rational feeding. Unfortunately for the dairy farmer, the feeds that have the greatest value in producing an abundant flow of milk are the very feeds that have the lowest value in supplying nourishment for the reproductive organs. Consider the milk-giving value of cottonseed meal, then consider the dairy cows that have fed upon it until they are worthless in the dairy herd. Other foods have a similar though not so noticeable an ecect. All highly concentrated protein by-product feeds are dangerous unless properly supplemented with other feeds that are valuable in supplying nourishment for the productive organs. It is to be regretted that these concentrated feeds are so deficient in the elements needed to build up the organs of maternity.

On many farms the trouble is not the result of heavy feeding of these protein concentrates, but not feeding enough of any nourishment feed. Such a policy means a loss at both ends and wipes out every possibility of profit. Between these two extremes there is a proper system of

"Walter would rather stay home and milk than go away on a picnic!"



HOW to get along with less hired help, and yet escape the drudgery that drives boys away from the dairy farm—this is the problem that is being solved by the

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We have milked at the rate of 40 cows an hour, but think it best not to exceed 32, as that leaves very little stripping to do.

One cow that only gave 21 quarts the year before, gave 29 quarts with the machine; two others that gave 22½ quarts the year before gave 26 to 28 quarts this year when machine milked. We have just one cow that refuses to give her milk down with the machine. The cows are very much quieter when machine milked and sore teats are all done away with. Walter has taken full charge of engine and milker since it was put in and has never missed a milking—would rather stay home and milk than go away on a picnic. GEO. E. FREEMAN

While overcoming the strongest objection to the life of the dairy farmer, the Empire Mechanical Milker is helping hundreds to make more money. Why shouldn't YOU be one of them? Write for Illustrated Booklet and full particulars to Dept. L

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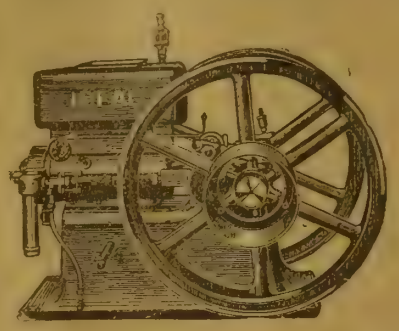

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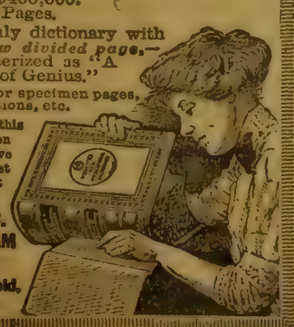


G. & C. MERRIAM CO., Springfield, Mass.

feeding dairy cows which provides for an abundance of farm-grown feeds that contain more bulk and less protein than the protein by-products, even though a properly balanced ration is not used. In making up the best rations to insure an abundant yield and a healthy development of the reproductive organs no other grain can take the place of oats. Oats are the best all round feed for dairy cows, and should have a more general use in our rations for dairy cows, even though their use may add slightly to the cost of feeding the herd. The cow cannot turn all the nourishment she derives from the food she gets into milk and still have enough to build up her reproductive organs. We want our cows to breed regularly and must do our share to that end. We must see that our cows have the right kind of feeds to insure their breeding qualities if we are to succeed in the dairy business.—N. M. K.

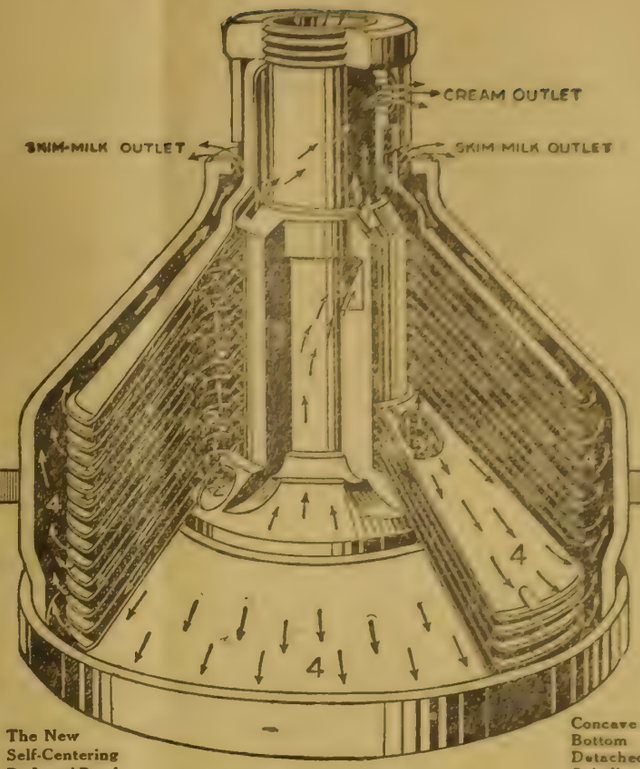
TRAIN THE HEIFER SO THAT SHE WILL BE GOOD COW

There are many practical and quick ways to raise calves and many calves are reared that should have been steered for the butcher's block. It is not safe to assert that a farmer should raise to an adult every calf that is dropped on his farm. As a matter of common knowledge, there is little to be gained by raising calves other than those from the best cows in the herd. Fifteen years ago we bought any number of heifer calves at two dollars each, while the males that this particular dairyman had dropped to his possession were despatched at once. The cost of raising the calf was, in this case, more than the calf was worth. In these days of high prices, there is quite a tendency for city folks to express themselves as of the belief that there should be a law prohibiting a man from doing ought else but raise his calves until they are at least two years ago. This would not be wise. When people will pay enough so that it pays for the raising, the calves will be coming along all right. Unquestionably now is the time to raise the heifers from the best cows. With good grade cows selling at not less than $100, calf raising becomes lucrative once more.

There are five details that I try to bear in mind when rearing a calf. "The proof of the pudding is in the eating" and my results bear me out on the following points:

1. Feed regularly.
2. Give milk always at the same temperature.
3. Supply feed in the same condition.
4. Keep the calf pails clean.
5. Feed grain as soon as the calf iwll eat it.

I believe that regularity is a valuable asset in calf raising. I believe that the temperature cuts some small figure but the condition of the feed is more important. Calves do well on sour milk, if that is what they get regularly but a nondescript combination of sour and sweet milk is pretty sure to be a trouble breeder. Calf pails cleaned once a week should be washed seven times as often, and this is especially true in the summer or in warm weather. Each calf ought to have a separate pail. If a group of calves are allowed to drink out of a washtub "might makes right" and the little ones suffer when they are most in need of feed. This results in the larger ones growing faster and faster in proportion until the small ones cannot get any feed at all. Under such conditions, one should make no complaint if fatalities occur in the "light" class, but it rather singes the conscience when it occurs to one that those little fellows were literally starved out.



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It outlasts and outwears all other makes by far, and can be run with much less cost for repairs.

The world-wide De Laval organization, with agents and representatives in almost every locality where cows are milked, ready to serve you, insures that the buyer of a De Laval will get quick and valuable service when he needs it.

More De Lavals are sold every year than all other makes combined.

The New De Laval has greater capacity than the 1916 style, is simpler in construction, has fewer and interchangeable discs, is easier to wash, and the skimming efficiency is even greater.

Each New De Laval is equipped with a Bell Speed Indicator.

Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or if you don't know him, write to the nearest De Laval office as below.

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Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.
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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

There is a tendency in these times of dollar grain to stint the calves and grow them less rapidly. One may well remember that if a calf is worth raising at all, he is worth raising well. Early gains are economical ones; this has been proven many, many times. A pound of grain will put more flesh on a calf than it will on a two-year-old and so there is no economy in stunting the calves even though grain is high in price. The tenth day I put a few grains of corn into the calf's mouth and if this is done regularly, by the sixteenth day most calves will eat their feed without any coaxing. Especially for winter feeding, if calves get skimmed milk and corn and all the clover hay they want, they will make rapid and economical growth.

It often takes patience and perseverance to be a good calf feeder, but present prices for cows pay well for these two qualities. The rules I have outlined have given me good results with no fatalities, and I recommend them for the consideration of others who like sleek, shiny, strong, scampering calves.—I. M. Matthews.

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LIVE STOCK.

SHEEP DIPPING

Do you dip your sheep? If not we dare say at shearing time you found your sheep infested with vermin. Did you ever watch a vermin infested flock of sheep and see how restless they act? How they rub themselves against fences, feed racks, etc! How they bite at their side and pull the wool until in some cases, they become almost denuded How they suffer! Suffering, as they do, they cannot thrive, and spring finds them in an emanciated condition. The loss at lambing time is greater than it would be if the ewes were strong and giving a bountiful supply of milk. Why not dip your sheep this summer and thus give both ewes and lambs a chance to thrive? The process is quite simple. If you follow the following rules you cannot go wrong in this respect. See that the preparation is properly mixed and the correct quantity of water is added. Don't guess at it.

Never hurry the dipping. always take care that every sheep is kept in the bath more than two minutes.

Have the bath well and regularly stirred up from the bottom always before beginning to dip, and whenever any stopage occurs.

1. The best time for dipping is from one to three months after shearing.

2. The sheep should not be over heated or thirsty at the time of dipping.

3. If the sun is very hot, it is better to have the draining pens under shade.

4. If the nights are cold the dipping should always be stopped soon enough to allow the sheep some time to dry before sunset.

CARE OF SOW AND LITTER

The proper care of the brood sow and her young litter has a good deal to do with getting a good start towards making money out of the finished hogs. Between farrowing times and while the sow is carrying her litter, she should be well fed with flesh producing foods that will build her and her offspring up, big and strong without too much fat. The sow's food in summer should largely be green food-pasture, clover, alfalfa, rape, etc., and a good part of her winter ration should be clover, alfalfa and roots, which will cheapen the cost of her keep considerably.

As farrowing time approaches, it may be necessary to increase the meal ration. This can be decided by the appearance of the sow, some litters being in greater drain on the system than others. In such cases more meal should be fed. As farrowing time draws near laxative food should be fed, which will tend to produce milk for the youngsters, clear the channels in the sow and produce natural conditions. The sow whose system is in proper condition will very seldom eat her young, or become so stupid that she will lie upon them.

If she is farrowing in cold weather, a little precaution should be taken until the pigs become dry or have nursed once. A good plan is to set a jug of warm water or some warm (not hot) bricks into a feed basket, partly filled with chaff, and put the little fellows into the basket as fast as they arrive. The warm jug and chaff drys them off quickly and keeps them out of danger until they gain strength enough to go as they wish.

The sow should be fed very sparingly for a few days and that mostly in the form of drink. An opening large enough for the little pigs to pass through should be made leading from the sow's pen into another pen, or into the passage way, where the little pigs can go for exercise, and where they can soon be learned to drink milk or gruel, thereby removing a great drain upon the mother, and greatly assisting the growth of the litter.

If there is no hurry to breed the sow again, the pigs are just as well to be left upon their mother until 10 weeks of age, unless the sow gets cross with them and will not let them suck. But they are just as well weaned younger. If the practice of feeding them in a pen by themselves is practised they shouldn't get a set back when weaned. They should then be fed milk and middlings if possible about four times a day for a few weeks, with a little finely ground mixture of oats, barley, wheat and peas. If no milk is available, a little tankage is a splendid substitute; oil cake fed in small quantities give gool results.

R. H. H.

RAISING ORPHAN LAMBS IF RIGHTLY DONE WILL REPAY THE SHEEPOWNER

Just because a lamb is an orphan does not mean it cannot be raised, although I believe the raising of orphan lambs should not be recommended on a large scale. Too often the lamb is the plaything of a farm boy or girl and when such is the case the lamb generally puts up a haggard appearance. When I have an orphan lamb on my hands my first thought is this: Is there a ewe in my flock that has recently lost her lamb? If there is such a ewe in the flock, then we can usually deceive her by taking the skin off the dead lamb and putting it on the orphan. In about nine cases out of ten the ewe will take the lamb and claim it as her own in very short order. Although this scheme does not always work, yet it is the most successful method we have ever used in getting ewes to own lambs that are not their own by birth.

In the absence of a more efficient method we have no complaint to make against the above. After a few days the pelt may be removed without any great danger of the ewe renouncing the lambs. In our flock we endeavor to make every ewe raise a lamb. Ofttimes in the absence of orphans we place with a ewe that has lost her lamb, one of the pairs of twins belonging to some other ewe. We have many ewes with twins that are only able to suckle one lamb and do it well.

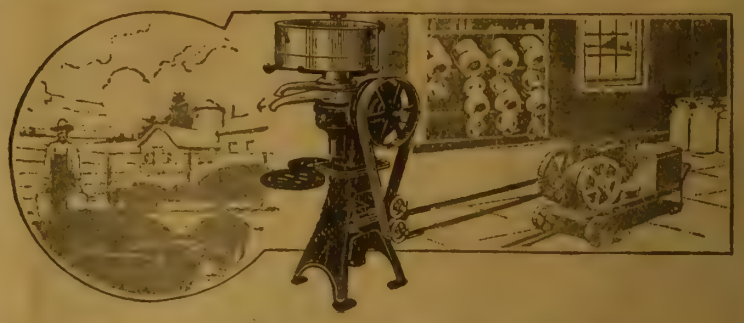
If there is no chance to place an orphan with a foster mother, then it will have to be raised by hand and on milk from a cow. A cow that has freshened lately is no doubt the best place to secure the milk. Many people believe and practice the idea of diluting the milk with equal parts of water. Personally, I have never seen fit to follow this practice, because ewe's milk contains more total solids than cow's milk and also a higher percentage of fat and sugar. Moreover we have fed lambs very successfully with whole milk from the cow. The first week of the orphan's life we always try and feed it on the milk from some ewe. We always have some ewes that are very heavy milkers and if they have only one lamb and it is young, that is a fine place for an orphan to get a meal. Heavy milking ewes should be watched carefully right after they lamb to see that the milk is out of their udders as least once a day, otherwise there is a chance of the udder becoming inflamed and ending up in a case of garget.

When we begin to feed the lamb cow's milk the first day we give just two tablespoonfuls. This is given at intervals of every two hours, thus feeding often and in only small amounts. The equipment necessary in caring for an orphan lamb is a long-necked bottle and a swan bill nipple. As times goes on and the lamb grows older the amount of milk can be increased and by the time the lamb is three weeks old, three or four feedings each day are enough.

We also believe in getting the little fellows to eating grain as soon as possible. When they are two weeks' old they will nibble the leaves of alfalfa or pea hay. In fact, this is about the first thing our lambs eat. Soon they learn to take bran, oats and a little linseed oil cake does not hurt them any. Getting lambs to eat grain and hay helps wonderfully in supplementing milk and they will thrive on these feeds. By the time they are a month old, they will being eating appreciable amount of hay and grain and they may gain as much as a half a pound a day for the first three months. By careful feeding the haggard appearance which the orphan lamb generally presents can be prevented. I have known orphan lambs that were well grown to be the foundation for many a farm flock.

HOW ONE BOY SUCCEEDED

During the very many years in which I was especially interested in sheep, I obtained quite a little first-hand information in caring for orphan lambs. In fact, it was through one of these unfortunate creatures that my introduction to sheep husbandry began. Until I was about 10 years old my father had kept cows but had never kept sheep. At that



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Of the many reasons for this close skimming, we can mention only two good **Primrose** features — the double cream outlet and the regulating screw in the skimmed milk outlet. It is important that the cream have a free outlet from the bowl, plenty of room to escape without cutting or crushing the large fat globules which make such smooth, rich butter and give quality and value to the cream. Therefore, we not only place no screw in the cream outlet, but we provide a second outlet as large as the first. Through these the cream finds easy passage after its complete separation in the bowl.

If a less dense cream is wanted, a turn of the screw in the skimmed milk outlet forces a thin edge of skimmed milk into the cream channel, thinning the cream but not interfering in any way with the closeness of the skimming.

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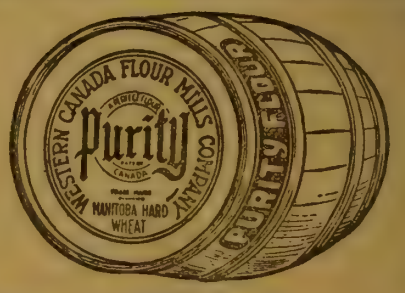

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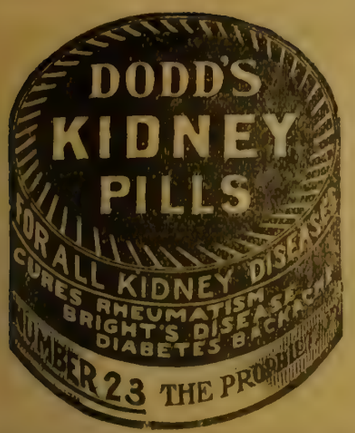

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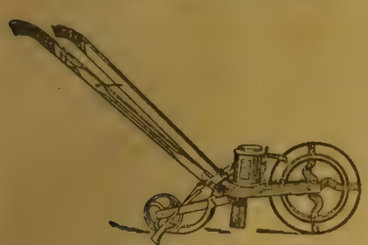

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Price $8.50 Delivered at Your Station. Order To-day.

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NOTICE

The attention of owners of stallions is drawn to "An Act to Provide for the Inspection and Registration of Stallions," 5th George V., Cap. 18, and 6th George V., Cap. 44, under which all stallions travelled or offered for service must be enrolled at the Department of Agriculture on or before the 1st day of May, 1917.

Inspectors will be appointed by the Department, to report on each animal before a certificate is issued. Evidence of breeding and ownership must be submitted and a fee of $2.00 forwarded with application.

Further information can be obtained by applying to

Department of Agriculture

Fredericton, N. B.

BUTTER PARCHMENT
Printed or Plain, at the Maritime Farmer Office

time a neighbor who had a flock of good sheep, gave him a lamb lost or that had been disowned. It was raised by hand and became a fine sheep. Its descendants were kept and in the course of a few years quite a little flock was formed.

The lamb that must be cared for without aid from its dam should be kept in a large box in the barn or in some other comfortable building. In order to save time and steps, this should be near the house. If the lamb is chilled when it is found it should be thoroughly warmed by the fire, or by rubbing with a dry cloth and should be given a very little warm milk. The box should be supplied with bedding and this should be changed frequently so as to keep it clean and **dry.**

At first the lamb must be fed with a spoon or from a bottle having a rubber nipple. If the latter is used it must be kept scrupulously clean. After it has gotten a fair start the lamb can be taught to drink. This is best done by putting one's hand in a dish of milk and letting the lamb suck one of the fingers. Some lambs learn much more readily than others but all can be taught. At first, feeding should be little and often. Cow's milk should be given at intervals of five or six times each twenty-four hours, the first feeding being early in the morning and the last as late as ten in the evening.

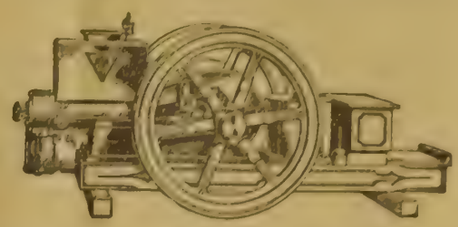
As the lamb grows it can take more milk at a time and will not need feeding so often. It is important to give the milk of only one cow, and one that has freshened recently. The milk of a farrow cow is too constipating. If it must be used, water and a little molasses should be mixed with it. Milk should always be warm when it is fed but over-heating must be avoided. When it has learned to drink, the lamb should have access to clean water and while it is quite young it will like, and should be given, a little fine hay as part of its daily food. It needs exercise but until it is several weeks old it should not be out-of-doors in bad weather. Feeding of milk should be discontinued gradually. The time when the lamb should be put with the flock will depend upon its size and strength and the readiness with which it eats hay.

Efforts of this kind sometimes fail. Many times they succeed. They are worth making when it is a question of certainly losing, or possibly saving, a good lamb. J. E. R.

CASTRATING LARGE BOAR

Subscriber asks for method of handling a 600 lb. boar for castrating.

In securing large boards for castration, the difficulties to contend with are the great strength of the animal compared to its size, and the awkward shape of the animal for handling. It is therefore necessary to use a form of restraint to take advantage of them, and which will be egective in controlling them. The best method is to first secure the boar by means of a rope noose in the mouth. A loop of ½ or ¾ inch rope is next placed over the neck and one front leg, so that the loop of rope is behind the shoulder on one side. The free end of the rope should then be passed up over a beam overhead. The hog should then be drawn up so as to keep the front feet right up off the ground, and kept in this position until the operation is completed. By this means any large boar can be easily handled and rendered entirely helpless. In doing the castrating the testicles should be firmly grasped by the hand and a large incision made on each side of the scrotum to expose the testicles. The testicles are then drawn out of the scrotum with the hand and removed with an emasculator, which crushes the cord and prevents bleeding.



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You won't find in the ALPHA any of the complicated, delicate parts that cause so much trouble in some engines.

The ALPHA is built for SERVICE. It contains just as few parts as can possibly be used, and every part is strongly made of the best materials obtainable, accurately machined and perfectly adjusted.

You can always rely on an ALPHA to do its work when you need it. It starts and runs on a simple, low-speed magneto and there are no troublesome batteries to watch or fuss with, or to wear out and require renewing. Simply turn on the fuel, give the flywheel a pull and the ALPHA is good for an all-day run.

If you want to saw wood, run a feed grinder or cutter, a cream separator, a pump or a washing-machine, the ALPHA is always ready to do the work—and do it at the lowest fuel cost.

It runs on either gasoline or kerosene, and the sensitive governor prevents any waste of fuel due to changes in load.

Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable, or portable style, and with hopper or tank cooled cylinder.

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Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Catalogues mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

LOSSES AMONG YOUNG PIGS

Subscriber writes: "Sow farrowed, had thirteen pigs, and all have died but four. She was fed before and after farrowing equal parts of oat chop and shorts. She seemed to have no appetite, sleeps most of the time and is crippled up in the legs as if she had rheumatism.

"The young pigs all were healthy and strong when born, but gradually got thinner and weaker till they died."

Losses, such as you describe, occurring among young pigs a short time after birth, are usually the result of an acute gastritis, or inflammation of the stomach, due to some irritation. The irritation is usually caused by some improper element in the sow's milk, as a result of some constitutional trouble affecting her. The fact of your sow being troubles with rheumatism shows that she is affected with some constitutional ailment, which would make her milk harmful. In a case of this kind, the young pigs are better taken away from the mother and raised artificially on cow's milk. For the first week, or until they learn to drink, they would require to be fed from a bottle. They should be continued on the cow's milk and shorts, until ten weeks old, and then gradually change their diet to shorts and crushed oats. The sow should be given a dose of castor oil, or raw linseed oil. She should also be given a spoonful each of salicylate of soda and bicarbonate of soda, each night and mornin, in her feed. She should be fed on a sloppy diet of milk and shorts for several weeks.

MAKING BACON

Subscriber, writes,—"Will you kindly give me a recipe for making 'spice rolled bacon,' and name the spices to be used?"

Take your fresh side of bacon and sprinkle over it a mixture of ground spices, such as allspice, cloves, cinnamon, pepper and salt, through the flour sifter, so they will be well mixed. Mace and a pinch of savory can also be added if desired. Roll up the bacon, tie with cord and let stand overnight. The next day boil till tender; drain and serve cold.

For Pure Seeds
write
Dunlop Bros. & Co. Ltd.
AMHERST, Nova Scotia
who carry a full line of Field and Garden Seeds, including "Best of all Scotch Turnip Seed."
Wholesale and retail.
☛ Mail orders receive special attention.

PAINS AFTER EATING

WIND IN THE STOMACH—ACIDITY, HEADACHES—CONSTIPATION

ARE SIGNS OF INDIGESTION.

Indigestion—the complete or partial failure of the digestive processes—frequently throws out of gear the whole machinery of the body. You can't enjoy the vigour and vitality of good health unless your stomach, liver and bowels do their work regularly and efficiently.

MOTHER SEIGEL'S SYRUP

As a digestive tonic and stomachic remedy, Mother Seigel's Syrup is esteemed in tens of thousands of homes, wherever the English language is spoken. If you suffer much or little from disorders of the stomach, liver or bowels, try the effect of taking 15 to 30 drops of this famous remedy in water, after meals, for a few days and note its beneficial effects.

4015

ASSISTS DIGESTION

The new 1.00 size contains *three times as much* as the trial size sold at 50c per bottle.

THE WINTER TERM

of the

Fredericton Business College

will open on

Monday, January 8th, 1917

Begin today to prepare for a good paying position by getting information regarding our courses of study, descriptive booklet of which will be sent on application.

Address,

W. J. OSBORNE, Principal
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Concrete Machinery for Farm Use

(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself.

Also Crushers, Brick, Block, Tile Machines, Mixers, etc. New and Second Hand Gas Engines. Ask for Catalogue A.

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"TITE WAD"

"STICKS LIKE A BULL-DOG"

THE ORIGINAL RUBBER PUTTY

Vulcanizes Without Heat.
Heat Does Not Affect It.

Don,t throw away old tires. rubber boots, raincoats or hot water bottles,—buy a tin of Tite Wad—postpaid to any part of Canada. Put up in 3 sizes; 50c, $1.00 and $1.50. Guaranteed to do what we say or money refunded. Address mail orders: EDWIN SCHOFIELD, 24-26 Dalhousie St., Toronto, Ont. Montreal Branch: 26 Victoria Sq. Stock carried by SUMMER COMPANY, Moncton, N. B.

THE HORSE

REMEDIES THAT SHOULD BE KEPT IN EVERY FARM BARN

Nail prick—Part out punctured place well, inject turpentine, pack foot tar. Dress twice daily.

Barbed wire cut—Stop bleeding (bandage or pinch arteries), dust on boric acid. Dress twice daily. Use tincture of iodine and glycerine in equal parts to check proud flesh.

Sore shoulder in horses—Have collar fit, not too large. Use clean, dry pads; no pads are better. Wash shoulders every night with salt water. Use zinc oxide ointment.

Sweeney—Caused by a poorly fitting collar on a young or green horse. Apply four parts lard and one part turpentine, or a liniment. See a veterinarian.

Strangles, distemper—Good care, shelter. Coax the appetite, laxative food, no purgatives. See your veterinarian.

Azoturia or Monday morning disease—Horses exercised daily seldom have it. Comes on after a few days of rest. If the horse becomes crampy on exercise and falls down, stop at once and blanket him. Get expert advice.

Joint-ill in colts—Keep colt in clean place. Twice daily dip cord in equal parts tincture of iodine and glycerine.

Colic in horses—Call a veterinarian at once. While waiting give one quart raw linseed oil and four tablespoonfuls turpentine by the mouth. Follow with four tablespoonfuls aromatic spirits of ammonia in three cups water every two hours as a stimulant, if necessary. Turn horse free in box stall or corral.

Worms in horses—Give one quart raw linseed oil with one-half cup turpentine on an empty stomach. Repeat in a week if necessary.

Bloat in cattle—Give three tablespoonfuls each of turpentine and aromatic spirits of ammonia in three cups water. Repeat every two hours if necessary. Tap on left side if bad.

Milk fever—Inflate each quarter of udder with air. Boil teat tube before using to avoid infection.

Caked udder—Apply hot water frequently. Massage, following with application of zinc oxide ointment.

Lice—Wash, spray, or dip animals in two percent solution of Creolin or Zenoleum in soft water, or dust on lightly sabadilla powder.

Blackleg—Burn carcasses. Vaccinate all cattle from one month to two years of age, April 1 and October 1.

Drenching a horse—Back him into a single stall, use a loop of ropes or hame strap in the mouth, throw rope over a beam, pull head up until mouth is on a level with his eye. Drench slowly by the mouth.

Clean up buildings after hog cholera and other contagious diseases. Clean out all dark corners. Spray or wash all parts of pens or stable with three percent Creoline or Zenoleum solution in lime water.

Diagnosis by your veterinarian is more valuable than medicine.—Dr. W. J. Hartman, Livestock Specialist.

MARE WITH WORMS AND THIN CONDITION

I have a 7-year-old mare that raised a colt when three years old and one when four years old. She ran on the grass late in the fall and did practically nothing this winter, she has had worms for some time and is very poor. She gets half a pail of oats and lots of hay three times a day. T. H.

You certainly have kept your mare busy in the way of successive breed-

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY

For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.

Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.

Yours truly, Clarke Bros.

Hubbard's Cove, N. S.

Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.

Yours truly, C. C. McLean.

Truro, N. S.

This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.

Newton Lee, Owner "All Right" 5817.

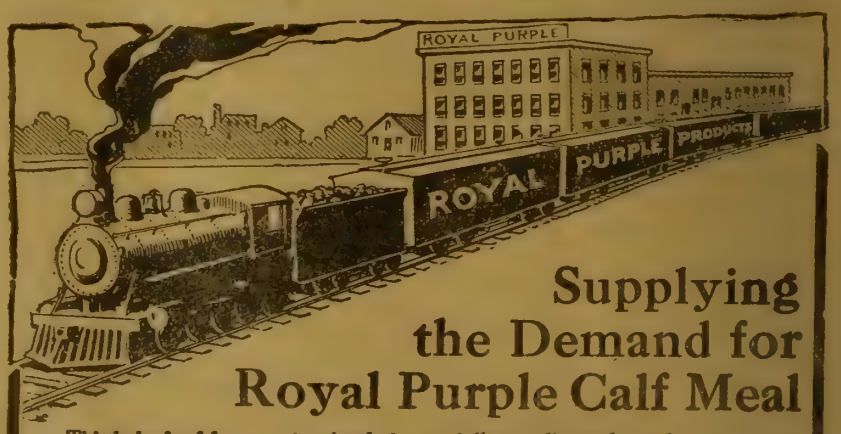
Elmsdale, N. S.

Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada



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This baby food for young animals is partially pre-digested, and can be fed to the youngest animals with perfect safety. It WILL NOT cause stomach or bowel trouble, which are serious ailments in young animals. Royal Purple is a sure preventive for scouring.

Calves Gain Rapidly Without Milk

When the calves are 3 or 4 days old they can be fed Royal Purple Calf Meal and raised just as well without one drop of milk. What prominent breeders remark:

Mr. Geo. W Collins. Plainfield Ont., writes:

"Gentlemen.—In regard to your Calf Meal, I think you have the best on the market, as people who have bought it give it great praise. Some have taken their calves off sweet milk, and feed them nothing but your Calf Meal and water, and say they are doing as well on it as they did on the whole milk."

To Whom It May Concern: Uxbridge, Aug. 5th

This is to certify that I have secured your "Royal Purple" Calf Meal from our druggist. Mr. T. C. Nicholls. of Uxbridge and can speak of this meal in the highest terms. I have used other calf meals, but this one is the best I ever tried I never saw a calf gain more rapidly and thrive better than mine did while using your "Royal Purple" Calf Meal. I can cheerfully recommend it to all our stockmen who wish to raise large, healthy calves."—Stanley W. Croxall.

Note—The above Mr. Croxall keeps a large herd of pure-bred Holstein cattle and is an excellent authority on Calf Foods.

Royal Purple Calf Meal is equally good for young colts, lambs and young pigs. Put up in 25-lb., 50-lb. and 100-lb. bags. Secure it from our dealer in your town.

W. A. Jenkins Mfg. Co., Ltd., London, Can.

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FREE BOOK

Send for our 80-page book which describes the common diseases of stock and poultry; also methods of feeding and our many products. Get a copy to-day.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

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Caustic Balsam

IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils Corns and Bunions, CAUSTIC BALSAM has no equal as a Liniment.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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Cornhill, Tex.—"One bottle **Caustic Balsam** did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

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KEEP THEM WORKING

A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get

KENDALL'S

SPAVIN CURE

at any druggists at $1 a bottle, 6 for $5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. 115

Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

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TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, Muscles or Bruises. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. $2 a bottle delivered. Describe your case for special instructions and Book 2 K Free.

ABSORBINE, JR., the antiseptic liniment for mankind. Reduces Strained, Torn Ligaments, Enlarged Glands, Veins or Muscles, Heals Cuts, Sores, Ulcers. Allays pain. Price $1.00 a bottle at dealers or delivered. Book "Evidence" free.

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For twenty years the only sure cure has been Fleming's Lump Jaw Cure. Use it no matter how old the case. It must cure or we will refund the full price paid. Fleming's Vest Pocket Veterinary Adviser is free.

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I was cured of Acute Bronchitis by MINARD'S LINIMENT
Bay of Islands. J. M. CAMPBELL.

I was cured of Facial Neuralgia by MINARD'S LINIMENT.
Springhill, N. S. WM. DANIELS.

I was cured of Chronic Rheumatism by MINARD'S LINIMENT
Albert Co., N. B. GEO. TINGLEY.

ing at so immature an age as three or four years. If you have worked her hard at the same time you have very likely spoiled your mare for life. To keep horses in first class shape and ability for their duties on the farm, they require more consideration than the average farmer apparently gives. The appearance of the team generally tells the quality of the man, either as a humane individual or as a success as a farmer.

You say she is thin and has done practically nothing all winter. Either you have knocked the "spirit" out of her in her earlier years, or you are not giving her proper attention. There are numerous vermifuges for worms. The most convenient and effectual is the following: I Drachm sulphate of iron, 1 drachm tartar emetic, 2 drachms of linseed meal, mix them together. This quantity will be sufficient for one dose, repeating it morning and night for a week. Give it in her grain feed. After the week is up, give a purgative of oil and turpentine, one ounce of turpentine in one pint raw linseed oil, give as one dose.

Take a pride in having your horses always looking their best and it will pay you. Some horses can stand 15 lbs. of oats a day. .The army ration) and some will do just as well on 8 or 10 lbs. a day; all depends on the digestive faculties of the animals and care of the feede: Divide the grain ration into three meals a day. A bran mash or feed of boiled barley at night will help the mare greatly and if you can afford a little linseed meal, just a handful daily in the oats, it will pay you. Feed her hay often and in moderate quantities. A little clover daily is also a good horse flesh former. Always remember that the horse that is well groomed and kept warm in well ventilated quarters makes the most of its feed. Put a light covering or blanket on the mare, as it will improve her coat greatly and aid in putting on flesh.—O. V. J.

GIVE THE HORSE A NEW SPRING COAT

He Will Feel Good and Fit When He Gets It On

Paint helps the appearance of the farm buildings and so does care help the horse's coat—and the selling price of the farm and of the horse is increased. The general appearance and the comfort of the horse are helped by condition of the coat, which acts as a sort of barometer of the care given it.

Naturally, breeding has some influence upon the nature of the horse's coat. The age of the animal has something to do with it. Horses under five and over ten years of age do not give the same return for care, generally, as do those between these ages. The young horse is in a more or less general feverish condition because of dentition. The old horse is more or less impaired in vitality and the coat as well as other parts of the body will show this condition.

Frequently farmers are heard to say that they don't like gray or white horses because they cannot be kept clean. The reason is that dirt or stains show the more readily on light colored horses. The coat is harder to keep in good condition in the winter because the hair is longer and seems to be lacking in gloss. When horses are kept well sheltered and grooming is regular this gloss, that is especially desired with show and fancy stock, is partially retained. Grooming twice daily, including not only the brushing of the hair roots with and against the grain will assist greatly in removing dust and dandruff.

Whenever a horse has been ridden, driven or worked until perspiration is caused, it is well to rub until dry if the condition of the horse as well

Don't Waste the "Golden Nuggets"!

Make every seed-piece count, yet make sure of a full stand. This boy will help you do 100% potato planting, with no doubles and no misses. He will save you 1 to 2 bushels per acre—some say a barrel. He earns his way many times over. You can't afford to do without him. Use the seed-saving

IRON AGE Potato Planter

It plants as fast as the team can walk, spaces the seed evenly and at uniform depth. Has no pickers—nothing to cut or bruise the seed. Spreads the fertilizer and thoroughly mixes it with the soil so that it can not injure the seed. Can be had in two styles with or without fertilizer attachments and with choice of furrow openers.

"The 100 Per Cent Potato Planter"

Write today for booklet fully describing this 100% Potato Planter. We also make a full line of potato spraying, cultivating and garden tools.

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"VIVAT"

is an energetic remedy in powdered form, prescribed with great success by prominent veterinary surgeons, for the absolute cure of coughs, heaves, etc. It acts as a diuretic in cases of colics and is prescribed for worms.

"VIVAT" strengthens draught-horses as well as racers and gives them endurance.

A 50c box of VIVAT is sufficient for 6 days' treatment.

FOR SALE BY ALL PROGRESSIVE MERCHANTS.

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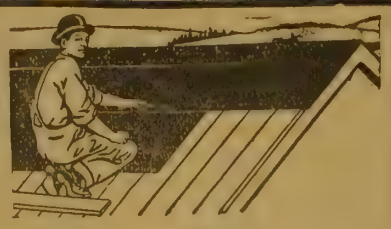
"Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

Keep Your Stock Where You Want Them

is to provide real gates, strong and durable. All Peerless Farm Gates are of heavy open hearth steel wire [illegible] welded in one solid piece and braced like a steel bridge. [illegible] no wearing out. Ask your dealer to show you. [illegible] Peerless Perfection Farm and Poultry fencing with the [illegible] Peerless lock at all intersections.

SEND TODAY FOR CATALOG. [illegible]

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario



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YOUR roofing troubles will end when you invest in Everlastic Roofing. There is no better roofing value on the market, and no better made rubber roofing for any thing like this price. It defies wind and weather and insures dry buildings.

EVERLASTIC ROOFING

Everlastic Roofing is made with all the care and skill that have made our other products famous. On any steep roof it will wear like iron. Doesn't run in summer heat or dry out in the cold.

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Only $1.29 Postpaid
For This Lovely House Dress

Nowhere else could you buy a dress like this for **$1.29**. It would cost $2.50 to $2.75 in any of the large city stores.

It is made of the finest quality gingham, vest style front, with Chambray collar and cuffs. It is cut full size in every way. Neatly finished with deep sea pearl buttons. It will wash and wear until you are tired of it. Made in all sizes 34 to 46; colors either blue stripe or grey stripe.

These dresses are absolutely the best value you can secure, and a great bargain at this price

READ OUR GUARANTEE.

We will send you this dress, all charges paid, on receipt of $1.29. Express or Post Office money order, and guarantee if it is not the best value you can buy anywhere, or if it does not suit you in every way we will cheerfully refund your money.

Specify color and size when ordering. Don't delay. Write today. Remember it does not cost you a cent if it does not suit you in every way.

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Advertise int he Farmer

POULTRY.

PRODUCE MORE POULTRY PRODUCTS

There never was a time when egg production and increased egg production was as necessary as at present. The demand was never as good, and prospects indicate that this demand will continue for some time to come. With the scarcity of meat, Canadians are eating more eggs and Great Britain needs all the eggs that we can supply. Therefore, as a busines proposition, increased production of poultry products should appeal to more than usual.

A Slight Export

For two years Canada has been producing a surplus. During the calendar year 1915, 7,151,031 dozens of eggs, valued at $2,037,294, were shipped to Great Britain. In 1916 the amount exported was 5,481,958 dozens with a value of $1, 892, 843, and there is no reason why the surplus for 1917 should not be from five to ten times what it was in 1916. In normal times Great Britain eats a million eggs a day; she would probably eat more now if she could get them. Canadian eggs are at a premium in England; the prices paid for them have been several cents a dozen higher than that paid for eggs from some other countries.

Increase the Export.

Canada should be able to supply a great many more than she has done. Canadian eggs are good eggs, but we want more of them. We have the climate, we have the feed, and though labour for other lines of work is scarce, there is plenty of labour suitable for poultry-keeping for those who are comparatively old or the younger members of the family are quite satisfactory for this line of production.

Mating and Breeding

It is the early-hatched pullets that make the best winter layers, and it is the winter layers that give the best returns; therefore, the breeding pen should be mated as soon after the first of February as circumstances will permit.

Hatch as many chicks in March and April as possible, so that you will not have to depend on late pullets for your next winter layers.

Breeding females.—Yearling hens make the best breeders. These should not be forced for heavy production through the winter, but should be kept active. If possible, allow them the run of a sheltered barnyard. Keep them not too fat, but in good vigorous condition. If there are not enough yearlings, early-hatched well-matured pullets may be used.

Selecting the breeding females.—Breed from those that were the best layers as pullets. When the pullets are put into their winter quarters in the fall they should all be carefully banded, trap-nested, and records kept of their laying for the four winter months, that is, November, December, January, and February. It is from the pullets that lay best during that period that the breeders should be selected, as experience has shown that those are the birds that will make the best yearly records and will return the greatest profits. If it is not possible to trap-nest, note should be made of the time of starting to lay of each pullet, and those that show early maturity used.

The birds that pass the test of early maturity and the trap-nest should be carefully examined for vigour, and only those that are in perfect health and of fair size for the breed of which they are representatives should be reserved for breeders.

The breeding males.—The first re-

NORTHERN GROWN... SEEDS
Of Stronger Vitality

Rennie's Derby Swede Turnip, greatest yielder..4 ozs. 20c, ½ lb. 37c, lb. 70c.
Rennie's Jumbo Sugar Beet, best cattle feeder...4 ozs. 15c, ½ lb. 25c, lb. 45c.
Mammoth White Intermediate Field Carrot, for stock, 4 ozs. 45c, ½ lb. 80c.
Improved Red Carrot, for table or stock....Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. $2.00.
Rennie's Ninety Day Tomato, best early.Pkg. 10c, ½ oz. 30c, oz. 50c.
Improved Beefsteak Tomato, enormous fruit.Pkg. 10c, ½ oz. 35c
XXX Scarlet Oval Radish, tender, crisp..Pkg. 10c, oz. 20c, 4 ozs. 50c.
Hodson's Long Pod Butter Wax Bush Beans.....4 ozs. 15c, lb. 50c, 5 lbs. $2.25.
Worldbeater Cabbage, hard heads, very large.....Pkg. 5c, oz. 30c, 4 ozs. 90c.
XXX Snowball Cauliflower (highest grade).....Pkg. 25c, ¼ oz. $1.00, oz. $3.00.
XXX Golden Self-Blanching Celery, very fine....Pkg. 25c, ¼ oz. 75c, oz. $2.75.
Famous Golden Bantam Table Corn, early.Pkg. 10c, lb. 40c, 5 lbs. $1.90.
Early Market Sweet Table Corn, big ears.Pkg. 10c, lb. 35c, 5 lbs. $1.50.
London Long Green Cucumber Pkg. 5c, oz. 15c, 4 ozs. 40c, lb. $1.25
May King Lettuce, favorite butter head.Pkg. 5c, oz. 20c, 4 ozs. 60c
Citron for Preserves, red seeded, great cropper...Pkg. 5c, oz. 15c, 4 ozs. 40c.
XXX Connecticut Yellow Globe Onion (black seed)..Pkg. 10c, oz. 35c, 4 ozs. $1.00.
Yellow Dutch Onion Setts, select.....lb. 35c, 5 lbs. $1.70
Intermediate Parsnip, half long, fine sort.Pkg. 5c, oz. 15c, 4 ozs. 35c
XXX Earliest Table Marrow Peas.4 ozs. 15c, lb. 40c, 5 lbs. $1.90
Giant Branching Asters Crimson, Pink, White or Mixed.Pkg. 10c
XXX Exhibition Mixture Pansy, huge blooms....Pkg. 25c, ⅛ oz. $1.25.
Sweet Peas, fine mixed, best for the money.Pkt. 5c, oz. 10c 4 ozs. 25c, lb. 75c.
Mammoth Cosmos, Crimson, Pink, White or Mixed.Pkg. 10c
XXX Japanese Morning Glories.Pkg. 10c, ½ oz. 20c, oz. 35c

"Pakro" Seedtape. "You plant it by the yard."
2 pkts. for 25c. Ask for descriptive list.
Rennie's Seed Annual Free to All. Delivery Free in Canada.
Order through your LOCAL DEALER or direct from

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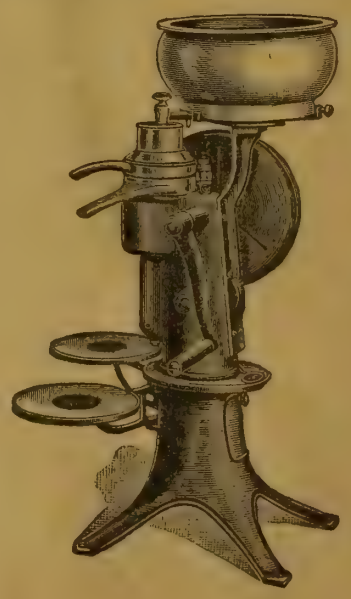
190 McGill Street, MONTREAL.
ALSO AT TORONTO WINNIPEG VANCOUVER



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Turns easy—Skims clean.
Oil Splash. Separate bowl spindle.
Six Sizes—135 capacity per hour to 800 lbs.
Guaranteed to give Satisfaction.
Low cash price or on time if desired.
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Catalogue and Prices.

King Separator Works of Canada,
BRIDGEBURG, ONT.

HAD INDIGESTION.

BURDOCK BLOOD BITTERS CURED.

That grand old remedy, Burdock Blood Bitters, has been on the market for over forty years and we claim, without any fear of contradiction, that there is not another medicine on the market to-day that can compare with it for the cure of all disturbances of the stomach.

Mrs. S. Turpin, Colborne, Ont., writes: "I am writing to say that I have used your Burdock Blood Bitters. For a long period I suffered with indigestion, and nothing I took ever gave me any relief, only for a short time. I bought several bottles of B. B. B. from our druggist, Mr. Griffis, and can honestly say I can eat or drink anything I want without experiencing any bad after-effects. I may say that it is the only medicine I ever got any relief from."

Burdock Blood Bitters is manufactured only by THE T. MILBURN CO., Limited, Toronto, Ont.

quisite in a breeding male is that he should have the proper breeding back of him. He should be the son of a heavy winter-laying hen and his sisters should also have shown their ability to lay well in winter.

Besides this he should be carefully selected for vigour. He should be of good size, with a head broad between the eyes and well filled in in front, ending in a stout well-curved beak. He should have a bright, piercing eye, and should stand on legs that are straight, not too long, and that are set wide apart, with no inclination to knock knees. If there is a line of red pigment down the outside of the shanks all the better. With males and females such as described, the results should be satisfactory provided they are housed and fed properly.

Age of males.—A well-matured vigorous cockerel is usuall best. He gives better fertility than an older bird. More hens can be mated to a cockerel than to a cock bird. He should be well grown and matured.

Number of females.—From ten to twenty-five females, depending on breed and condition. Heavy breeds, fewer; lighter breeds, more. The more free range and exercise the more females.

Time of mating.—An egg laid two days after actual mating takes place will be fertile, but to be on the safe side it is advisable to put the male in the breeding pen about ten days before eggs are wanted for incubation. Use some selection, trap-nest if possible, and hatch early.

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
Address

MRS. M. SUMMERS, Box 309
Windsor, Ont.

INCUBATING AND BROODING

Incubation.

Incubator or hens, which?—It all depends how many chicks you want and whether they are wanted at the one time or not. One hundred chicks or less scattered through the season will be just as well hatched under hens. If more than one hundred, the incubator is the better proposition.

How to buy an incubator.—In buying an incubator buy a good standard make and pay a fair price. The first price of a good incubator is nothing compared with the cost of keeping a poor one supplied with eggs.

Get the incubator ready.—Don't wait until you are ready to set the eggs before you think of looking at the incubator. See that it is perfectly cleaned, disinfected, have all repairs ready and get a new burner. Run it several days before you put any eggs inside.

Where to place the incubator.—A moist, well-ventilated basement is best. Earth or cement floor is better than board. A room in the house may do, but more moisture will be required.

Prepare proper sitting nests.—Trouble and annoyance with broody hens will be overcome by providing suitable nests. These nests may be built in sections large enough to hold three sitting hens. Set that many hens at once.

Put sitting hens by themselves.—compartment as the other hens. Put Don't allow the sitters in the same the sitting boxes in a place by themselves, if it is only a box stall in the stable. On the floor keep water, feed, and a dust bath, allowing the hens out once a day for a few minutes.

Select good eggs.—Use no eggs that are abnormal in shape or size. Discard eggs that have rough shells or that have wrinkles in the shell; also those that are long and thin, or extremely round.

Don't chill the eggs.—The fertility of many eggs is spoiled because of being chilled. The strongest germs will be spoiled if eggs are left in freezing temperature for many minutes. Don't leave them in the nests to chill or standing around in a cold room after you have gathered them.

Test all eggs.—Whether eggs are under hens or in an incubator, test the eggs for fertility on the seventh or eighth day. White-shelled eggs can be tested on the fourth or fifth day.

Brooding.

Artificial or natural.—As a rule, the kind of incubation determines the nature of the brooding. No matter what kind of brooding is adopted, bear in mind that the brooding is even more important than the incubation in that in the brooding so many losses occur.

Artificial brooding.—Have plenty of brooding space. Do not crowd the brooders. Fifty chicks is plenty in the small brooders on the market. Indoor brooders give better results than outdoor brooders. Make sure brooders are clean. Clean and disinfect after every brood. Keep the heat at 95 to 100 degrees. Heat, cleanliness and fresh air are three important factors in artificial brooding.

Natural brooding.—Provide broody coops for the hens with the chicks. Put them in a sheltered and convenient place. Change the coop to new ground every day. Have the coop large enough so that when the chicks are weaned, they can make the coop their own during the rearing period.

Feeding

No set rule can be laid down for feeding, feeds and conditions vary so. The following suggestions are given and may be adopted or altered to suit:—

Chicks.

Chicks should not be fed until they show positive signs of hunger, which

(Continued on page 408)

12 GOOD REASONS AND TRUE

1.—POWER almost unlimited. The Gray-Dort will carry you anywhere. Hills—mud—sand—hold no terror for her.

2—PERFECT COOLING obtained by exceptionally large jackets round every cylinder individually and around every valve cage.

3—ABSENCE OF VIBRATION—An extra heavy crank shaft with long and large bearings and perfect balance and adjustment of all working parts.

4—QUICK-GET-AWAY—she responds to the throttle at once. The light motor moves quickly—fires surely.

5—ABSENCE OF BACK PRESSURE—the Gray-Dort has a dual exhaust—rare on four-cylinder cars.

6—FOOL-PROOF CARBURATOR—Adjust it as you will, the motor still runs sweetly and powerfully.

7—ACCESSIBILITY—you can reach the "vitals" of the Gray-Dort easily. This makes cleaning and adjustment easy.

8—EASY DRIVING. Easy gear shift, sure brakes, handy control, sure steering.

9—COMFORT—long springs, deep upholstery; lots of seat room; lots of leg room.

10—COMPLETE—you buy the Gray-Dort complete; Westinghouse starting and lighting, one-man top, speedometer, ammeter, dashlight, demountable rims, non-skid tires in rear, electric horn, tools, everything.

11—LONG LIFE—strength and honesty of construction have characterized every product for which this great manufacturing organization has stood sponsor during 60 years of practical experience—the Gray-Dort is our latest and finest effort.

12—PRICE—only $910 for a completely equipped 5 passenger touring car or 3 passenger roadster of outstanding quality—value far in excess of the price asked.

OWN A 1917
GRAY-DORT
$910
YOU WILL LIKE IT

"The Quality Goes Clear Through"

A. L. PELTON CO.,
Distributor, - KENTVILLE, N. S.

BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil. One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. M for free catalogue. 98

T. E. BISSELL CO., LTD., Elora, Ont.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

LAUGHTER

By Isabella Valancey Crawford.

LAUGHTER wears a lilied gown—
She is but a simple thing;
Laughter's eyes are water-brown,
Ever glancing up and down
Like a woodbird's restless wing.

Laughter slender is and round—
She is but a simple thing;
And her tresses fly unbound,
And above her brow are found
Buds that blossom by Mirth's spring.

Laughter loves to praise and play—
She is but a simple thing;
With the children small who stray
Under hedges, where the May
Scents and blossoms richly fling.

Laughter coyly peeps and flits—
She is but a simple thing;
Round the flower-clad door, where sits
Maid who dimples as she knits,
Dreaming in the rosy spring.

Laughter hath light-tripping feet—
She is but a simple thing;
Ye may often Laughter meet
In the hayfield, gilt and sweet,
Where the mowers jest and sing.

Laughter shakes the bounteous leaves
She is but a simple thing;
On the village ale-house eaves,
While the angered swallow grieves
And the rustic revellers sing.

Laughter never comes a-nigh—
She's a wise though simple thing—
Where men lay them down to die;
Nor will under stormy sky
Laughters' airy music ring.

TABLE SETTING AND SERVING.

The eye and the digestive system are under the same control. The nervous system directs the action of both and what pleases one, pleases the other. No meal is a success unless the linen is clean, the table neatly set and the food neatly served. A suitable text for the discussion of this subject would be "Simplicity and Perfection. A simple meal satisfies because it is well cooked, and because it is served from neat dishes and an attractive table. Try the same meal in some dingy room and see if you like it as well, with heavy, cracked dishes, soiled table cloth, no napkin, and flies without number. You have the same number of foods and the foods have the same names, but while the first meal is most satisfying, number two gives no satisfaction whatever.

Th most valuable among the early housekeeping lessons is the art of table setting, and is a lessen every child of ten should have mastered. This, like every other lesson, must be taught systematically and thoroughly. If definite instructions are given, the art of table setting may be masered with little difficulty.

In setting the table, first cover it with a cloth known as a silence cloth. This may consist of heavy cotton flannel, a thick blanket or a piece of table padding, but whatever kind is chosen, the silence cloth is intended to protect the table, prevent noise and save the table cloth from war.

The linen cloth should be so placed as to leave a margin, which is even on all sides of the table. Have the centre of the cloth exactly in the centre of the table. The cloth should be ironed so that the middle fold has the top of the crease up, while the two side folds are just the opposite. There should be no folds cross wise of the cloth. Place the linen centre piece directly in the centre of the table, and in the centre of this place a fern dish, dish of fruit or cut flowers. The flowers should be so low or so high, that an unobstructed view may be had across the table. Place tray cloth for hostess at edge of table and carving cloth for host one inch from edge.

Placing of Dishes

Whether the meal is simple or elaborate, one of the chief elements of success is the care with which the dishes are placed on the table. The same principles hold true, whether the meal is a simple home meal or an elaborate party affair. Pleace each piece of silver so that the end is one inch from edge of table. Let each piece be absolutely parallel with each other. Place the silver in the order which it is used, beginning at the outside and using towards the place. Either the salad or dessert silver may be brought in on the plate or placed from the right. The knives are placed at the right of the plate with cutting edge towards the plate. Place spoons with bowls up, at the right. The forks, with tines turned up, at the left of the plate. Place the napkin bat and squarely folded, at the left of the fork. The hem and selvage of the napkin should be parallel with the fork and the edge of the table. (There is just one case where the fork is placed at the right and that it when oysters are served, the oyster fork is placed at the extreme right, because it is the first piece of silver used.) Place the water glass at the point of the knife, the bread and butter plate a little to the left of the fork.

Some Suggestions About Serving

It is an excellent thing for children to learn to wait upon the table, and to do it well. This lesson not only makes them useful, but teaches them to be more unselfish and more considerate of others. In serving a meal the chief thought to keep in mind is simplicity and comfort, rather than display and effort.

General Rules.—Pass food from left to right, this leaves the right hand of the person free to help herself. Be careful in passing food, to lower dish within easy reach. Remove and place food from the right.

Place folded napkin under all dishes containing food to be served, that is all dishes that are placed on the hand and passed.

In clearing the table for another course, remove all dishes containing food, that is first the platter, next the soiled plates, and last of all the clean china or silver that were not used, also anything pertaining to the course that will not be needed in any other course. Salted nuts, bonbons, and all water and wine glasses remain upon the table until the end of the meal.

Order of Serving

The order of serving depends largely upon the wishes of the hostess and the occasion.

Serve first the hostess or the guest of honor, then the next person to the right, in succession around the table, whether man or woman. The advantage of serving the hostess first is to see if the dish has been properly prepared and provided with suitable serving silver. Also, if the course is unusual or puzzling, the guest, by observing the hostess, may learn how to serve himself.

There are three forms of service, the English, the Russian, and the Mixed or Compromise. The last as its name indicates, is a compromise between the other two.

The English service is the most practical where help in table service is limited, as all the food belonging to one course is placed in suitable dishes before the host, hostess, or some other member of the family, and served from the table.

The Russian service is from the side and is in use for formal dinners and luncheons. It is in use also for all meals by those who care for form and have the servants to conduct it well. The plates are placed empty, for the successive courses, and all the food is passed attractively arranged on suitable dishes, from which each person helps himself. Or the food may be arranged on individual plates and placed before each person, although this is not the best form of service.

The combination of the two forms results in the Mixed service in which some of the courses are placed upon the table in the English way, while others are served from the side Russian style. For example the soup may be placed (Russian), the meat carved at the table by the host (English), the vegetables passed by the waitress (Russian), the salad served by the host (English), or passed by the waitress (Russian), and the dessert served by the host (English).

Laying the Table and Serving a Home Dinner Without a Maid

One can serve meals, without a waitress, in an ordinary and attractive way. Lay the silence and table cloth, a plate for each person, then the silver according to preceeding directions. In convenient places towards the corners, place a plate of butter and relishes. The carving cloth and set should be in place

Special care should be taken in laying the table to provide everything necessary, that there may be as little occasion as possible to go to the pantry or serving table. Since the soup tureen is rarely used, the soup is brought from the kitchen hot, in heated soup plates, by some younger member of the family. As already mentioned, children should be allowed

Says She Suffered For Many Years

THEN DODD'S KIDNEY PILLS CURED HER KIDNEY TROUBLES

Mrs. Felix Ascah Found No Relief in Doctors or Hospital Treatment, but Dodd's Kidney Pills Brought a Speedy Cure.

Haldimand, Gaspe Co., Que.—Apr. 20th (Special.—Mrs. Felix Ascah is telling her numerous friends here that her complete recovery from kidney disease from which she suffered for years is due to the splendid work of Dodd's Kidney Pills.

"My trouble started from a strain," Mrs. Ascah says. "I suffered for years. I was attended by a doctor and was also treated at a hospital. I suffered from stiffness in the joints, I had a bitter taste, especially in the morning, and at times was subject to severe headaches. I had a pressure and often a sharp pain at the top of my head and my skin itched and burned at night.

"Neither from the doctor nor at the hospital did I get any permanent relief. Then I started to use Dodd's Kidney Pills and two boxes did me so much good I feel like recommending them to everyone who has kidney trouble."

Dodd's Kidney Pills cure sick kidneys. Cured kidneys strain all the impurities, all the seeds of disease, out of the blood. That makes good health all over the body. That's why those cured are so enthusiastic in regard to Dodd's Kidney Pills.

HUSBAND OBJECTS TO OPERATION

Wife Cured by Lydia E. Pinkham's Vegetable Compound

Des Moines, Iowa.—"Four years ago I was very sick and my life was nearly spent. The doctors stated that I would never get well without an operation and that without it I would not live one year. My husband objected to any operation and got me some of Lydia E. Pinkham's Vegetable Compound. I took it and commenced to get better and am now well, am stout and able to do my own housework. I can recommend the Vegetable Compound to any woman who is sick and run down as a wonderful strength and health restorer. My husband says I would have been in my grave ere this if it had not been for your Vegetable Compound."—Mrs. BLANCHE JEFFERSON, 703 Lyon St., Des Moines, Iowa.

Before submitting to a surgical operation it is wise to try to build up the female system and cure its derangements with Lydia E. Pinkham's Vegetable Compound; it has saved many women from surgical operations.

Write to the Lydia E. Pinkham Medicine Co., Lynn, Mass., for advice—it will be confidential.

Make your FENCEPOSTS ROT-PROOF

DID you know that the ordinarily good fence post which you are accustomed to replacing every four or five years could be made to last 20 years? Creosote treatment does it. And Grade-One Liquid Creosote Oil brings this advantage right to your door because it is creosote in such form that the average home owner and farmer can use it.

Barrett's Grade One LIQUID Creosote Oil

The biggest point about Creosote Oil is that you can apply it by brushing or dipping. No cumbersome, closed-cylinder method. Just as simple as painting. And it penetrates deeper than any other preservative. Stop those costly renewals. Use this wonderful preservative on all wood work exposed to earth or dampness.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

and taught to help in the serving, even the boys, should have a daily share in such duties as filling the water glasses, passing butter and sauces and removing the dishes between courses.

It is a help to have someone who sits near the carver serve the vegetables that are to be on the same plate with the meat, as passing the plate back and forth is avoided. Great care should be taken to pass all the accompaniments to the courses, as butter and syrup with hot cakes, cream and sugar with cereals, and relishes when needed. Avoid however, the confusion of passing too many things at once. It is not practical to carry out for this kind of service, all the rules observed by a waitress. For instance, it is too much to expect one who has to prepare and serve a meal to take additional steps solely for the sake of form. Therefore, for this kind of serving it is allowable to leave a person with a plate, and to remove two plates at a time, one in each hand.

Suppose the menu to be,—

Cream of Pea Soop Croutons
Roast Lamb Brown Grævy
Whipped Potatoes Tomatoes
Mint Jelly
Bread
Apple Pie Coffee.

The order of service would be as follows,—

1. Place soup plates and pass croutons, remove soup plates two at a time. (Remove with right hand).
2. Bring to the table as many warmed plates as there are people at the table, and place before host.
3. Bring in meat platter and place before host.
4. Bring in dishes of vegetables and gravy and arrange in order parallel with edge of table and if possible directly in front of the persons who are to serve.
5. Clear table according to general directions, except, to save steps remove two plates at a time.
6. The table cleared and crumbs removed, bring in plates for dessert and place before host, bring serving silver and then dessert.
7. Bring coffee service, placing coffee pot at right of hostess, the sugar and cream in front of hostess and the cups at the left. As each one is served with dessert, pass coffee.

The successful dinner depends upon quality rather than quantity; it depends so much upon the good fellowship which attends the meal. In general let the meal be a rest time where cleanliness, good taste, good simple food, harmony and good manners prevail.

MINARD'S "KING OF PAIN" LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
Minard's Liniment
Yarmouth, N.S.

BEFORE HOUSECLEANING

Devote a few minutes at the beginning of housecleaning to sew stout straps of tape or canvas to the sides of the mattresses. Nothing is more conducive to weariness than tugging at a heavy mattress on which one cannot get a good finger-hold. Make the straps long enough to admit the hand readily, pin them flat along the sides of the mattresses and sew the ends securely.

Some mattresses have these straps attached when purchased. If they have not, by all means add them because of the ease with which they can then be handled.

If you have some tender old curtains which are likely to tear in washing, fold them evenly several times and baste loosely with white thread. Wash and rinse carefully, remove the bastings only when the curtain is ready for the curtain stretchers. When the curtains ars wet they are much heavier and it is lifting this weight by a single thickness of the material that tears them.

A New Shoe Idea for summer outdoor work

Write for Catalogue

For Farmers, Woodmen, Millmen, Trackmen, Laborers—all who work outdoors.
Palmer's "Moose Head" Brand
Summer Packs
Made of our famous Oil-Tanned Skowhegan waterproof leather; they have waterproof sole-leather outsoles and solid insoles. The soles, too, are attached by an improved clincher fastener process. They are staunch, light-weight working shoes for spring, summer and fall. Your dealer will likely have them; if not, write us, giving his name and address.

John Palmer Company, Limited,
Fredericton, N.B., Canada 29

an enamel coal range

Porcelain enamel is the newest material for ranges.

The Lighter Day—the coal range with oven at handy-height—is armed inside and out, with this durable toughened enamel.

The most beautiful of ranges it is also the most easily cleaned and many times more durable than steel.

Not an inch of surface over the whole range requires black lead. A damp cloth will make every part sparkle.

Dealers in nearly every town sell the new Lighter Day. If you have not seen it, write for a free folder showing every new improvement fully illustrated.

CLARE BROS. & CO., LIMITED, PRESTON

new LIGHTER DAY range

OILED FLOORS

Oiled floors can be kept clean and in perfect condition by wiping off daily with a cloth or mop moistened with the following mixture: one pint of boiled linseed oil, one quart of kerosene and one pint of vinegar. Shake well together and bottle. Before using shake well as the ingredients separate. The kerosene and vinegar cleanse and the linseed oil finishes and polishes the floor.

The Ultimate Verdict

¶ Taken in the aggregate Dunlop Automobile Tires—"Traction," "Special"—uniformly give the highest average of general satisfaction.

A. 74

DUNLOP TIRES

FOR
"LIVERISHNESS"
USE
MILBURN'S
LAXA-LIVER PILLS
THEY NEVER FAIL TO DO GOOD.

Mrs. J. Shellsworth, Halifax, N.S., writes: "I take pleasure in writing you concerning the great value I have received by using your Milburn's Laxa-Liver Pills for a sluggish liver. When my liver got bad I would have severe headaches, but after using a couple of vials of your pills I have not been bothered with the headaches any more."

Milburn's Laxa-Liver Pills clean away all waste and poisonous matter from the system, and prevent as well as cure all complaints arising from a liver which has become inactive.

Milburn's Laxa-Liver Pills are 25c. a vial, or 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

BUILD CONCRETE SILOS

Dwellings or any class of buildings from Concrete Blocks.
THE LONDON ADJUSTABLE BLOCK MACHINE makes all sizes and designs of Concrete Blocks. Price $65.00. Send for catalog No. 3.
LONDON CONCRETE MACHINERY CO.
Dept. E, London, Ontario.
World's Largest Manufacturers of Concrete Machinery

THE "OCEAN LIMITED" DAILY SERVICE BETWEEN HALIFAX AND MONTREAL RESTORED

Commencing next Sunday, April 15th, the Ocean Limited will leave Halifax at 7.00 a.m. and will run daily thereafter to Montreal. Commencing Saturday, April 14th, the Ocean Limited will leave Montreal at 7.15 p.m. and will run daily thereafter to Halifax. The Maritime Express will run on present schedule daily except Sunday. Further particulars can be obtained from ticket agents.

Advertise in the MARITIME FARMER

IDEAS FOR HOME COMFORT

Many of us, no doubt, have a vague sort of notion at times, that our homes are not quite so nice and neat as we should like; but somehow, we hardly know what to do to improve their appearance, and "Oh, I can't be bothered anyhow," we say.

Wait a minute, please. Will the improved appearance of the house and the "alone I did it" sort of feeling that will come over you, really not be worth the trouble? Perhaps you cannot afford to spend much on improvements, but if you will remove all rubbish, keep things in repair and the place tidy, you will find that you have already made a big step forward.

A lick of good enamel paint applied to some of the shabby old furniture, brightens it up past belief. Perhaps your wallpaper is getting dirty, or the edges ragged near the floor. Good wallpapers are very inexpensive nowadays. Make your paste thin and with boiling water. Have you ever tried a brown paper skirting board? Cut strips of stout brown paper, six inches wide and the necessary length, and paste them round the walls. When quite dry, give the paper boards two thick coats of dark mission oak staining. This stiffens and strengthens the brown paper immensely and the skirting board gives a nice finish to the room. Here is the staining recipe: 1 lb. burnt umber, 4 ozs. lamp black, 1 pint japan driers, 2 quarts boiled linseed oil.

Of course, the ingredients must be used in proportion when mixing a larger or smaller quantity.

Inside surfaces of doors and window-panes look better treated with this staining than when painted, and cost very much less to do. The old carpet-square will look brighter, too, if the floor-surround be given one or two coats of the staining.

Keeping Out the Mud

How to keep the mud out of the house is a vexing problem for many a housewife. A boot-scraper at each side of the doorstep and a cocoanut fibre mat just inside the door helps some. Then, cheap linoleum on the kitchen floor costs surprisingly little. Do try it. The saving of your back and arms will pay for its value very soon.

A covered cupboard in the entrance hall, for overshoes and rubbers removed on the mat, also for extra boots, gloves, caps, balls of twine and odds and ends of a like nature, takes up very little space and plays quite a part in keeping things trim. Have it made triangular in shape and 40 inches in height, with three shelves. As the two sides fit losely against the two walls and are never seen, the cupboard can be made of any rough lumber. Ours was made from a packing case. Line the inside with brown paper and cover the top with a piece of fairly thick material—art-serge, is as good as anything. Then, either have the cupboard fitted with folding doors of planed boards and stain them dark mission oak, or fit it yourself with curtains of the same material and color as the top cover. A peacock blue, or terra cotta vase, filled with a few fresh flowers, standing on the cupboard top, would give a touch of refinement to the entrance of one's dwelling that is well worth the small amount of trouble entailed.

Talking of room-saving contrivances, a very useful one is a large, deep, strongly-built packing case set on castors. This case, when it stands mouth upwards, should be about as high as a low table. Have a hinged lid put on it, about ½-inch larger on the front and the two sides than the case itself. Then over the lid with a piece of thin oilcloth, or a piece of sheet tin would do. Tack a piece of cretonne round the sides, or these

TO-DAY AND EVERYDAY

You'll Like the Flavor

Now a
Fine, Bonny Little Boy

Penetang (Ontario) Child, Once so Thin and Delicate, Cured by Dr. Cassell's Tablets.

MRS. JARVIS, BOX 286, PENETANG, P.O., ONTARIO, says: "It is a pleasure to write and tell you what Dr. Cassell's Tablets have done for my baby. When only five months old he was taken ill. I had medical advice for him, and was told he had colic, for which he was treated, but he did not get any better, only worse. I tried several special foods, but none of them would stay on his stomach, and he became so thin that he seemed just skin and bone. He only weighed ten pounds. We never thought poor baby could live, but one day I chanced to hear of a baby's case almost like mine, that had been cured by Dr. Cassell's Tablets, so I got some for my baby, and I am thankful I did. After a few doses the nervous jumps he had suffered from stopped, and soon he was almost well. I have given him the Tablets during teething, and find them very soothing. He is a bonny boy now, quite cured, and weighs twenty-five pounds at twelve months old."

Baby Jarvis.

Every mother should know that Dr. Cassell's Tablets are just as suitable for children as they are for grown-up people. Their splendid nutritive and vitalising properties soon overcome any tendency to nervousness or weakness in the little ones, and lay the foundation of a strong constitution for after years.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, *before they pay for them*, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it.

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes . . six minutes.

State whatever you prefer a washer to operate by Hand-Engine Power-Water or Electric Motor. Our "1900" is very complete and cannot be fully described in a single booklet.

Address me personally, S. G., Morris, Mgr., Nineteen Hundred Washer Co., 357 Yonge St., Toronto, Ont. (Factory: 79-81 Portland St., Toronto.)

could be painted, if preferred, and if smooth enough, so as to cover up the trade announcements, usually stamped on such cases, as for instance, "Jelks Prime Tomatoes" and such like. The case could stand in a corner of the kitchen, where the top would serve admirably as a wash-up table, wash-hand stand, chopping table, or any such purpose; while inside it could be stored rugs, comforters, spare blankets, towels, wraps and anything like that, that are not constantly in use.

The placing of the little castors under the four corners should by no means be omitted, as these will make all the difference to the usefulness of the case. Remember, rugs, blankets and things of that kind will soon make the case very heavy; but it can be moved about quite easily if on the castors.—T. R.

Year of Years to Plant Potatoes Let the Aspinwall Do the Work

The *only* correct drop. *A one-man, Automatic Potato Planter.* Saves expense of extra man. Does *all* the work—*all* the time. Plants *more acres* per day—opens the furrow, drops the seed, any size, any distance, marks the next row—all in *one operation.* 65,000 now in use. Plant the *Aspinwall way.*

Aspinwall No. 3 Potato Planter

Corn, pea, bean, and fertilizer attachments furnished when wanted.

Send to-day for illustrated catalogue MAILED FREE.

Cutters, Planters, Sprayers, Diggers, Sorters.

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Guelph, Ontario

World's Oldest and Largest Makers of Potato Machinery

WHY SHINGLES DO NOT LAST LONGER

Why do not shingles last as they used to? The reason given by builders for the shorter life of the modern shingle is the severe draining process by which the standing timber is bled of its sap for modern commercial uses, and the process of steam drying instead of natural seasoning, once the only method of preparation. Then the modern shingle is sawed, exposing the grain to the weather, whereas the olden-time, hand-riven shingle presented the less susceptible part of the wood fibers to the weather. The old hand-riven shingles were very long and very thick which, of course, meant greater durability. But the great secret of their long life was that the wood fibers were merely separated or split, the surface of the fibers remaining intact.

For re-roofing farm buildings, one should use the best shingles he can get.

When shingling, begin at the lower edge of the roof working upward toward the peak and chalk line the line of the lower edge of each upper course of shingles upon the lower couse to help in laying them straight. Or lay the lowest course part way and then work upward along the left edge of the roof baring only a small patch of roof at a time.

Use the very best nails, for they are poor enough. The peak of the roof requires a binder of shingles close lapped and laid regularly along it at right angles to the others. Such a binder will make an old roof last much longer. M. R. C.

Cream to whip well should contain at least 25 per cent of fat. The cream should be cold, not over 40 degrees F. to whip well. Adding a little sugar sometimes improves the whipping qualities of cream. The cream should be aged at least 24 hours before whipping.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

PEDLARS "OSHAWA" SHINGLES
DON'T think your home will always be spared the danger of destructive flames. Lightning and the straying spark show no favors to fine buildings and love-shielding homes. Unless your roof is of inflammable material, at any moment lightning or fire may envelop all you possess and endanger the lives of those the heart holds nearest.
Fulfill the duty of guardianship the home folks have placed in you by seeing to it at once your loved ones, your property, are fully protected from the ever-present menace of fire.
Pedlar's "Oshawa" Shingles mean safety and protection in the most practical, most dependable form. Made of sheet metal, each shingle interlocks on ALL FOUR SIDES, forming a single sheet of steel that is practically indestructible. Retain their beauty and service without repairs as long as your home lasts. Write for "The Right Roof" Booklet M F
THE PEDLAR PEOPLE Limited
(Established 1861)
26 Nazareth St., Montreal
Executive Offices & Factories: Oshawa, Ont.

Pedlar Branches: Ottawa, Toronto, London, Winnipeg, Vancouver.

EGGS SENT BY EXPRESS FROM SUSSEX TO VANCOUVER, 23 CHICKENS HATCHED FROM 26 EGGS

Seventeen years ago I promised a young lady, who had come from England with her parents and who was very successful with her poultry, a Plymouth Rock cockerel, but as she and her family moved soon after to Vancauver, she hoped I would send her the eggs instead. In April of 1900, I packed 26 eggs in a tin box in buckwheat hulls mixed with wheat bran, and shipped them by Express. The hardest part was to get them safely to Sussex over the very rough, frozen roads. It was so hard that my daughter said: "I thought father had more sense."

They arrived safely and 23 of the 26 eggs hatched, and 20 lived; speaking well for the care given by the young lady, also well for the Express Company that transported them such a long distance. JOHN H. KING. Kingsbrook Farm, Sussex.

The substanes in blood are largely of an albuminous nature, and their removal from fabrics that are difficult to launder may be effected by methods which make use of the properties of albumins. One method is to soak the fabric in lukewarm water until the stained part is softened, then place a little pepsin on the stain. The albuminous part of the blood is by this means digested so that it can be readily washed out or mopped up. Another method that is recommended is to use strong ammonia water, allowing the fabric to remain in this until the stain can be rubbed or washed out.—C. E. Vail.

LADY'S BUNGALOW APRON.

By Anabel Worthington.

The tidy housekeeper of moderate means is always interested in herself and in her home to such degree that she aims to look her best, even when working, and she does not consider an apron a thing apart, but something necessary to the complete furnishing of her wardrobe. The favorite style is the bungalow apron and the one pictured is sure to interest all who see it.

The garment hangs straight from the shoulder—just like the one piece dress of fashion's acceptance. The upper part fits to the figure with neatness and the fulness below is drawn to the back and held there with tie strings. The pocket in each front is a convenience made attractive with banding in contrasting color; the square neck is finished with banding also and the kimono sleeve has a cuff facing to correspond.

Among the pretty wash materials for developing the design are plain or striped percale, lawn, chambray, gingham, &c; for studio work, linen, sateen and the like may be considered appropriate. You could not be better occupied for one hour than you will be in making this garment.

The apron pattern No. 8,161 cuts in sizes 36, 40 and 44. To make in size 36 requires 5 yards 36 inch material and ⅝ yard 36 inch contrasting goods to trim.

To obtain the pattern send to the office of this publication.

SANDWICHES FOR THE LUNCH BASKET

The call of the school bell demands suitable food for the children's dinner baskets, and sandwiches are almost "must-haves." Bread a day old is ideal, but a sharp knife to cut it into thin slices, and something to put between, are the absolute essentials. Oiled paper such as comes around package crakers and cakes, or the regular paraffin paper which is sold for the purpose, should be wrapped around each sandwich to keep it moist. There are a number of sandwich fillings which may be prepared at leisure and stored in small glass cans or jelly tumblers on the cool cellar shelves. Some of these will keep for weeks in a cool, dry place.

Sweet Peanut Filling.—To one-half cup of finely ground peanuts add one cup of grated maple sugar, or light brown sugar, and work in sufficient fresh butter to make a stiff paste. When ready to spread on the bread, moisten with a spoonful of sweet cream.

Pounded Cheese.—This will utilize the scraps of left-over cheese which have become too dry or unsightly to serve. Remove the rind and run the pieces through the meat grinder with the fine-toothed attachment, or pound to a paste in a mortar. To a half pound of the cheese add one teaspoonful of pepper. Mix these together thoroughly and work in enough melted butter to make a stiff paste. Store in small jars covered with paraffin. This will keep for weeks. It is fine to spread between sandwiches which are to be toasted over a camp fire.

Fruit Filling.—Make a paste of chopped nuts, dates, and prunes or figs. This will keep for weeks in a cool place if stored in tightly covered jars. Any rich jam or marmalade is fine to spread between slices of brown bread.

Fig Filling.—One-half pound of finely chopped figs, one-third cup of sugar, one-half cup of boiling water and two tablespoonfuls of lemon juice. Mix and cook in a double boiler until thick enough to spread. Can and seal while hot if it is desired to keep it for several weeks.

Sandwiches without Bread.—These are prime favorites with the children. We use them also when we receive a telephone call to jump into the auto and go to an impromtu picnic, if there is no fresh bread in the house. Make baking powder biscuits a little larger than usual. Chop fine any cold chicken, veal, or other cold meat, or canned sardines or salmon, season it highly with salt, pepper, and celery salt if it is liked. Add enough sweet cream to make a stiff paste, cut the tops from the biscuits, take out some of the inside and replace the crumbs with the meat paste. These are extra good when impaled on a sharp stick and toasted in the school stove.

WATER AND FRESH AIR VS. HEALTH

"An apple a day keeps the doctor away." And the doctors tell us that plenty of water will accomplish the same end, and water is cheaper and easier to get than apples. Because of its very cheapness we underestimate the value of water to keep our bodies in proper shape. Most of us look carefully to the cleansing of our outer bodies and then neglect to see that our inner bodies are given the same treatment. Physicians say that every individual should drink six to eight glasses of water each day, one upon rising, two or three between breakfast and dinner, two or three between dinner and supper and one upon retiring. That sounds easy enough and yet it is a fact that very few of us drink as much as this. The rule is always to drink before and after meals and not with them. Drink often of good, pure water, not a sup but a glassful.

And even cheaper and easier to get is fresh air. Day and night it should circulate through your homes, through the living rooms and the sleeping rooms, bringing with it health and vigor. Moreover, contrary to a very generally accepted notion that night air is not good for one, it is the very purest air we breathe. Actual tests have proved again and again that the bacteria count in the night air is much lower than in the air during daylight, when the activities of the world are

Hysteria

ABOUT the first thing the victim of nervous collapse does is to cry. With ebbing nerve force all control is lost, and in this helpless, hopeless condition confidence disappears and discouragement takes its place.

Because sufferers from nervous disorders are often strong and healthy in outward appearance they frequently get little sympathy from their friends or from doctors who do not understand nervous diseases.

If there is ever a time when sympathy is needed it is when the nerves give way. But you must have more than sympathy if you are to recover your nervous energy. The feeble, exhausted nerve cells must be nourished back to health by the use of such treatment as Dr. Chase's Nerve Food.

This food cure is so gentle and natural in action that it admirably suits the delicate condition of the exhausted nervous system, and at the same time is wonderfully potent in restoring vigor and strength.

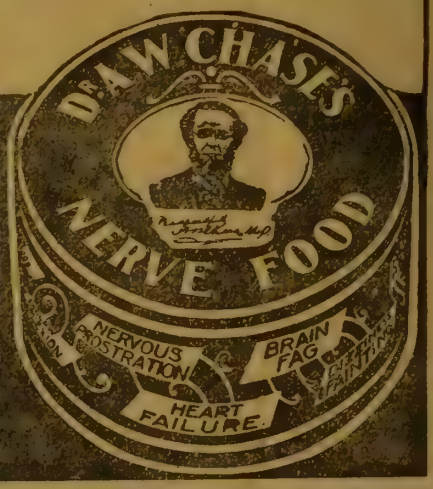
A little patience is necessary in order to build up the nervous system, so far run down, but as headaches disappear, digestion improves, and you rest and sleep better you will be encouraged to continue this food cure until restoration is complete.

50 cents a box, 6 for $2.50, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

536

Dr. Chase's Nerve Food



FREDERICTON-MADE IRONWARE WEARS

IRON CASTINGS and FORGINGS

Pig Troughs, Oat Boxes, Griddles, Pots, Stoves, Frying Pans, Sled-Bench Castings, Wagon Boxes and Nuts, Bean Jars, Aquaduct Rings, Cow-Tail Holders, Ashpit Doors, Sash Weights, Furnaces, etc., etc., etc.

THE SMITH FOUNDRY CO., Ltd., Fredericton, N. B.

at full height and the maximum of dirt and dust is active. Yet, in spite of this demonstrated scientific fact, thousands and thousands of people shut up their sleeping rooms during the winter for fear of letting in the "cold, damp, night air." In the summer, of course, windows are opened to let in the cooling breezes, but during the winter months the purifying fresh air is diligently shut out, and thousands sleep in closed-window rooms and breathe over and over the vitiated air, rendered disease-breeding by the waste of their own bodies.

A cup of hot water taken the first thing in the morning rinses out the stomach and prepares it for a day's work. Sipped as hot as can be borne it is excellent for indigestion.

THRIFT AIDS HEALTH

By H. Addington Bruce.

There are many familiar arguments to reinforce the gospel of thrift. But there is one argument which has not been advanced with anything like the frequency it deserves. This argument is found in the fact that when a man begins to save money he is pretty sure to begin to improve in health.

And the reason is not far to seek. Not only do thriftless men waste their money, but commonly they waste it in ways that are injurious to them.

In thousands of instances they waste money in alcoholic dissipation, to the great injury of their physical organism. In thousands of other instances, even when the wasters do not spend a cent for liquor, they throw away their money in extravagant expenditures for food that is both too abundant and too rich.

The ultimate result is self-poisoning, just as surely as the ultimate result of persistent indulgence in intoxicants si self-poisoning.

Other wasters, temperate as to food and drink, spend lavishly for amusements that involve nervous stress and often involve long hours in unhygienic surroundings.

Night after night they "sit in" at card games or keep the dust from gathering on top of a pool table. Or, perhaps, they have a mania for the dance hall or are threatre habitues.

This sort of thing, done nightly, means a great waste of money. It also means a constant drain on nervous energy, to say nothing of the harm done by long-continued breathing of air that is more or less stale.

Then there are wasters who toss money carelessly to hack-drivers and taxicab chauffeurs. Riding, of course, is easier than walking, and occasional indulgence in hacks or taxicabs is not a vice.

But to make it the habitual thing means money waste, and may mean the creation of a non-exercise habit that is disastrous to the physical health.

Once trrift is begun, expenditure of the kinds mentioned are necessarily cut down. They are the things one can most readily afford to do without, as wasters who turn thrifty perceive at once. And as soon as wasting along these lines is eliminated, better health is bound to be the result.

There is another important respect in which habits of thrift bear directly and favorably on health. The mere consciousness that one is saving money is of health-improving potency.

It gives a mental tranquility unknown in the days of wastefulness. And mental tranquility of itself acts as a tonic to promote the efficient functioning of every bodily organ.

Of course, thrift should never be carried to the point of stinginess with self or others. The mean, penurious man cannot avoid experiencing mental and physical reactions from which his health suffers as it would suffer if he were a self-indulgent waster.

Instead of being mentally tranquil he will be continually agitated by a dread of parting with any of the money he wishes to hoard. His anxiety will reflect itself in what may fairly be described as miser's dyspepsia.

But, this extreme alone excepted, thrift is assuredly health-making. If for no other reason it ought to be enthusiastically practised.

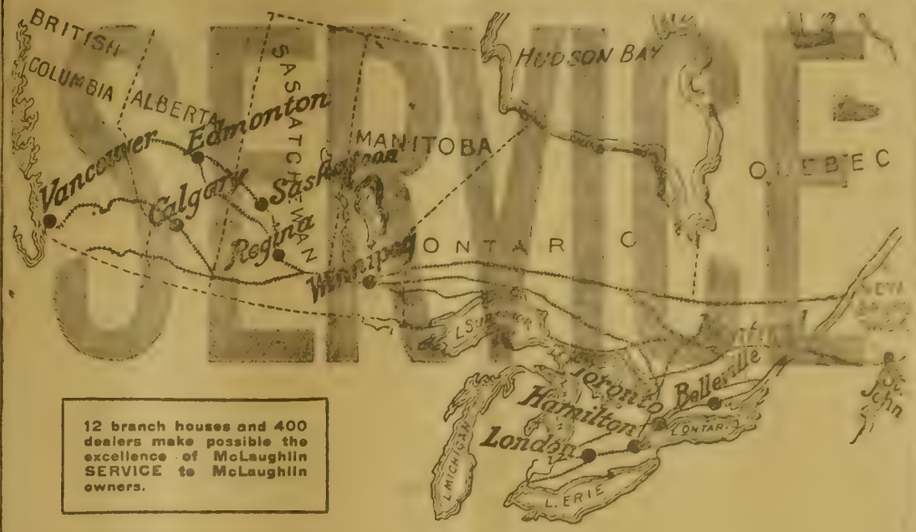
WHO AM I?

Last leap year I did not want to embarass my best girl to make her propose to me, so asked her to be my wife, and she said, "I would rather be excused," and I, like an idiot, excused her. But I got even with the girl. I married her mother. Then my father married the girl. Now I don't know who I am.

When I married the girl's mother, the girl became my daughter, and when my father married my daughter, he is my son. When my father married my daughter she was my mother. If my father is my son and my daughter is my mother, who in thunder am I? My mother's mother, (which is my wife) must be my grandmother, and I being my grandmother's husband, I am my own grandfather.

McLAUGHLIN

McLAUGHLIN



12 branch houses and 400 dealers make possible the excellence of McLaughlin SERVICE to McLaughlin owners.

The McLaughlin owner anywhere in Canada is within easy reach of one of the 12 directly controlled branch houses, where a stock of parts for all McLaughlin models ever built, is kept and where expert service is attainable. In addition there are 400 McLaughlin dealers employing expert mechanics and keeping a stock of parts.

Backed by a Company prepared to give Dominion wide service. McLaughlin owners everywhere can have the uninterrupted use of their cars and enjoy the kind of service which makes motoring a pleasure.

Before you buy your 1917 Car, consider the ability of the manufacturer to give you the kind of service you have a right to expect

Send for Catalogue "C" showing the New Series of McLaughlin Cars.

The McLAUGHLIN MOTOR CAR CO., Limited,
OSHAWA, ONTARIO.

PIONEER BUILDERS OF VALVE-IN-HEAD MOTOR CARS IN CANADA

BRANCHES IN LEADING CITIES
DEALERS EVERYWHERE

Canada's Standard Car

CONSTIPATION

the bane of Life

Such torturing headaches, such hopeless fits of depression poor complexions poor general health—is the lot of the sufferer from Constipation All absolutely needless. Knowing what Chamberlain's Tablets have done for thousands who suffered from Constipation, Indigestion Headaches, etc., we earnestly counsel you to start them to-day if you are a sufferer.

You hardly realize you are taking medicine their action is so gentle—but sure. The liver acts vigorously The bowels respond regularly Your digestion becomes normal. Your blood is very soon toned and purified

Get and keep Chamberlain's Tablets handy All druggists 25c., or by mail from Chamberlain Medicine Co., Toronto

CHAMBERLAIN'S TABLETS

THE BEAUTIFYING OF THE HOME GROUNDS

(Continued from page 393)

two or three inches of soil loose to form a mulch.

Roses should be cut back severely when first set out, if planting is done in the spring, from a half to two-thirds of the wood being cut away. It is well to observe the condition of the dormant buds when pruning and leave for the terminal bud a good stout unbruised one.

The following list of varieties can be very strongly recommended, as being perfectly hardy and they will, if properly planted and given a reasonable amount of care, produce blooms more or less throughout the summer.

I have made but a small selection and if any one here would like a larger list, I shall be pleased to make a further selection.

Capt. Hayward, bright scarlet crimson; perfectly formed flower and delightfully fragrant.

Fisher Holmes. Glowing scarlet crimson, and claimed by some to be an improvement on General Jacqueminot. Blooms very freely.

Frau Karl Druschki. No other rose has created such a sensation among rosarions. It is the best pure white H. P. A charming rose in every way.

George Arends., might well be called the pink Druschki. The blooms are of large size and well shaped.

Mrs. John Laing was introduced as far back as 1887 and still retains its place in the front rank; colour soft pink.

Ulrich Brunner. Flowers of great size and substance; colour bright cherry red.

The foregoing are all Hybrid perpetuals. The Teas and Hybrid Teas are not as hardy as the Hybrid Perpetuals, so I have not included them in this paper.

In conclusion I wish to thank you for the opportunity of giving this paper and regret that I was unable to give it the amount of preparation which the subject deserves. If at any time I can be of service to you in making a selection of shrubs, I shall be glad to do so and assist you in any way I can.

PRODUCE MORE POULTRY PRODUCTS

(Continued from page 401)

will be between two and three days after hatching. They should then be fed a little at a time and often—say **five times daily.**

First feed, bread crumbs moistened with milk, just what the chicks will clean up on a little clean sand or chick grit; second, finely cracked mixed grain; third, rolled oats; fourth, moistened bread crumbs; fifth, finely cracked mixed grains. If too early to get the chicks on grass, green feed is supplied in the form of young lettuce, sprouted grains, or any other tender succulent feed that is acceptable. After the chicks are ten days to two weeks old, coarser feeds are allowed. All changes are made gradually. The infertile eggs are boiled with mash feed and the bread and milk discontinued. Hoppers in which are placed grains and dry mash or rolled oats should be put where they can have free access to them. As soon as they become accustomed to the hoppers the hand feeding is reduced to the mash feeds, and if the chicks are on good range it will be found that after a time they will get careless about coming when called. The mash may then be dropped, and dependence placed entirely on the hopped feeding. Place grit, water and, if possible, a dish of sour milk where the chicks will have free access to it.

The mash may consist of equal parts bran, middlings, and cornmeal, and half part beef scrap, but the composition is more or less dependent on the feeds that are most available.

Layers

Grit, oyster shell, charcoal, and dry mash are kept in hoppers constantly before the flock. Fresh water and when possible a dish of sour milk, is also supplied. In the morning a light feed and in the eveniny a full feed of mixed brain is given in the litter; at noon, green feed, and if desired a feed of moist mash. When sour milk is not available, green cut bone may be fed alternately with the moist mash, or coarse beef scrap may be supplied in the hoppers.

The mash mixture is equal parts corn, bran, and middlings, half part gluten and half part blood flour or beef scrap. For old hens, either bran is used in place of the regular mash or the hopper is kept closed except at certain times of the day.—By F. E. Elford, Dominion Poultry Husbandman, and George Robertson, Assistant.

Seize this Export Market Opportunity

In 1916, Great Britain Imported 66,064,110 dozen eggs

TO that total Canada contributed 14,317,780 dozen—of which 7,363,290 dozen were United States eggs. Therefore Canada's net contribution was only 6,954,490 dozen domestic eggs.

CANADA'S eggs are of First Class quality and hold a high reputation in the British market.

THE present is a most opportune time to secure a permanent share of this trade.

TO do so, we should increase the output by at least 10 MILLION DOZEN.

THIS means 15 more hens on every farm in Canada.

Set more eggs—Raise more chicks—Act now —This is National Service.

Ask for Poultry Bulletin of Information Bureau

DOMINION DEPARTMENT OF AGRICULTURE, OTTAWA.

HON MARTIN BURRELL, *Minister.*

A FAMINE OF TURNIP AND OTHER ROOT CROPS EXPECTED IN 1918.

Editor the Maritime Farmer:

It is of vital importance that the farmers grow their own turnip seed this year. In the fall of 1914 the Seed Branch of the Department of Agriculture, Ottawa, fearing a shortage in supply of field roots and garden vegetable seeds owing to disturbed conditions in European countries, which before the war were the source of supply for such seed, put forth an effort to induce the farmers of the Dominion to grow their own seed. While this effort was only partially successful we have not to date met with any serious shortage. The principal reason for this was the large stock of old seed held in reserve, and many root fields in the Maritime Provinces last year showed the effect of the use of old seed. For the coming spring season conditions would seem to indicate that there is about enough of small garden vegetable seeds of rather low vitality which will necessitate heavier seeding, and a slight shortage of Swede turnip seed. As this is the principal field root crop for the Maritime Provinces and our farmers will agree with me that we cannot afford to reduce the acreage of our root crops, is it not about time we began to consider ways and means of procuring seed for our 1918 crop? It is almost a certainty that areas formerly used for the production of field root seed in countries such as France and the British Isles will next season be used for production of food for home consumption and the exportation of seed prohibited. In view of this the only thing left for us is home production. While no doubt the few who are already growing Swede turnip seed for sale in this district will increase their area as much as possible there is no possibility of their producing enough seed for the 25,000

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

A MESSAGE TO WOMEN!!

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:

Mrs. M. Summers, Box 309 Windsor, Ont.

acres annually grown in the Maritime Provinces. In the face of this the only solution of the problem is for every farmer who is raising turnips to grow his own seed. Any farmer who has a bushel or two of medium sized, fairly well shaped turnips, can with a little care grow as good seed as he can buy at any time. The proper way is making a selection in the fall, leaving all the roots and about four inches of the top attached to the plant. But even with the tops cut close to the bulb and the roots trimmed off you can produce seed. The centre or crown growth will be destroyed but the lateral shoots will come up and produce good seed. These stalks are weaker and weaker and you have more trouble to prevent breaking down before ripening. Select about four good turnips or plants for every pound of seed you wish to produce, choose a piece of dry or well drained soil fairly rich (corner of an old garden is a very good place) cultivate well, plant in rows three feet apart and about eighteen inches apart in the row. If you are putting out thirty plants put them in three rows of ten each or if you have only a dozen, three rows of four each. The reason for this is, that the plants in this way support one another and ripen more evenly. The turnips should be set in the ground deep enough so that the top or crown will be covered by about a half inch of earth. Keep clear of weeds till the plants are about eighteen inches high, after that they should cover the ground and take care of themselves. About the time they are going out of bloom stakes should be driven in and something like binder twine or wire, put around them about 2½ feet from the ground to prevent them from breaking down while ripening. They are fit to cut as soon as the pods turn a light brown. Mangles, beets, parsnips and carrot seed may be produced in the same way. This means of preventing a seed famine in 1918, is open to every farm who has some good sound roots or vegetables in his cellar at the present time. One farmer in 1915, who had never attempted the work before, produced 125 lbs. of extra good Swede seed on one-eighth of an acre and there is no reason why any farmer cannot obtain like results.

S. J. MOORE,
Maritime Representative of the
Seed Branch, Ottawa.

HOME GROWN SEED

Editor the Maritime Farmer:—

An effort is being made this season by the Department of Agriculture to bring to the notice of farmers generally, the necessity of the home-growing of farm seeds.

The shortage of the supply of imported seeds must be made up at home. This applies especially to field-roots and vegetable seeds. We must rely upon home production for war conditions have interfered with usual sources of supply.

Farmers are recommended to try the growing of turnip seed from such smooth, sound roots as they have available, even though the neck portion is short; these will send out seed bearing shoots.

The roots should be planted deeply, the neck covered with about one-half inch of soil, in clumps 30"x30" apart, upon rich, dry, sheltered soil, as early as possible.

The attention of Agricultural Societies is called to the possibilities in securing seed from the clover crop (Red and Alsike). The Clover Thresher, which did excellent work in Carleton County last year, is again available on the same terms to communities.

Community ooperation is recommended for the production and marketing of the highest yielding and best selling varieties of crops. Too many varieties on sale in a community is a deterrent to the receiving of top prices.

The Seed Centre idea is a further development of this plan and may be extended to the production and selling of seed stock of potatoes, grains, clover seed, turnip seed, etc.

O. C. HICKS,
Soils and Crops Division,
Fredericton, N. B.

EXTERMINATING COUCH GRASS.

When the land for the Experimental Station now located at Morden, Man., was purchased in 1915, it was found to be badly infested with couch grass (also called quack, twitch or quick, grass).

In an effort to exterminate this week, sixty-five acres of that part of the farm which appeared to be the worst infested was treated as follows:

About the first of June, it was ploughed four inches deep and well harrowed. The spring tooth cultivator was then used, serving to draw the roots well to the top of the ground. Next a chain harrow was employed. This implement brought all the loose grass to the surface and left it in large rolls all over the field. These rolls were then forked into heaps to dry and were burned about August 1st.

Immediately after this the land was again ploughed and again given the treatment outloned above, and was finally ploughed a third time late in the fall.

In the spring of 1916, it was well harrowed then sown and cross-sown with barley at the rate of 1½ bushels per acre each way. There was a good crop of grain and it was almost impossible to find a blade of couch grass on the whole area.

GETTING RID OF WILD OATS

Wild oats are recognized as pernicious weeds in all sections where grain is extensively grown. There are several methods of accomplishing their eradication. In any method the first step should be to sow clean seed. In fields which are already infested the grain crop should be followed by one or more crops requiring cultivation. If this cannot be done, then winter crops should be grown as much as possible, as harvesting will take place before the wild oats are mature. In a rotation which has one or two cultivated crops, wild oats will be kept under control.—J. D. Marshall.

A "tip" in growing onions that is well worth heeding is to apply a light coat of well-rotted manure on the surface of the onion bed or row after planting. This stimulates a growth of bulb at the surface of the ground and prevents long necks on the bulbs.

W. C. T. U. BUILDING, TORONTO.

MARTIN-SENOUR PAINT & VARNISHES

HAVELOCK COURT APARTMENTS, TORONTO.

If You Build Well, Paint Well.

YOU have got to paint your home, in order to insure it against the weather. Paint resists the destructive action of sun, wind, rain and snow. Of course the better you paint, the longer you are protected.

MARTIN-SENOUR

"100% PURE" PAINT

(Made in Canada)

is the greatest known protector of wood against weather because it is guaranteed to be made only of pure White Lead, pure Zinc Oxide and Pure Linseed Oil.

You insure your home against fire—perhaps against lightning and burglary. Insure it against wear and weather by painting it with "100% Pure" Paint—the cheapest because it covers more surface per gallon and lasts years longer.

If you are painting this spring, write for a copy of "Town and Country Homes" and "Harmony In Neu-Tone"—our books on home decorating. Mailed free—of course. 103

The MARTIN-SENOUR Co.
LIMITED
GREENSHIELDS AVENUE, • • MONTREAL.

BUYING AND SELLING CO-OPERATIVELY

(Continued from page 387)

tion, without money and without price, for all clubs of Maritime Farmer subscribers, who wish to save money by co-operative buying. After the cotton seed meal purchasing has been firmly established, other lines may be added by the same clubs on which equally large savings may be effected.

Nor will this plan in any way affect dealers in cotton seed meal. We have a proposition for them that will save money for them and enable them to purchase their requirement at such low prices, that they can offer the goods for re sale at hitherto impossible prices.

The Maritime Farmer will be pleased to hear from farmers who would like to take up the cotton seed meal proposition in their vicinity, and if they can arrange for meetings, we will send one of our representatives to make arrangements with them.

As it takes some time to get the work organized and running smoothly, it would be well for interested parties to write us right away, so that advantage may be taken of what may possibly be the lowest prices of the season. Dealers and farmers clubs that now purchase in small lots, will profit by the saving made by buying in large quantities, instead of in small lots, as is now the custom in Nova Scotia, New Brunswick and Prince Edward Island.

The Maritime Farmer' s plan is worthy of your sincerest consideration, and will be Maritime in scope. Let us hear about your cotton seed meal and oil cake requirements as early as possible.

The co-operative purchase of fertilizers in New Brunswick, has been tried and proved to the satisfaction of all concerned. The plan outlined in this article is along identical lines, but goes a step further by being interprovincial in scope.

GIVE THE HORSE A NEW SPRING COAT

(Continued from page 399)

as the appearance is to be of the best. This is the care which race horses receive and accounts in part for their fine appearance. However, such measures are not generally practical on most farms and with most farm horses. Help is too scarce and every one is too busy, but the next best thing can be done and more quickly, namely using a cover, placing the horse in a comfortable stall and away from drafts. When the horse is thoroughly dry a good rubbing will remove the dried perspiration, free the matted hair and take away the dust and dirt.

The use of covers in the stable is open to discussion, and may depend upon the stable. When it is necessary to work horses in rain or snow it is well to cover with a water-proof cover in order to keep the skin dry and warm.—Melvin Ryder.

A week or two ago, we made a flying trip around the Oxford Jct., Truro, Stellarton, Pictou and Shore Line loop. We spent one forenoon at the College Farm, where we found the various members of the staff busily engaged in completing the details of the work planned for the coming busy season. The butter makers' course had just been completed and satisfactory results in attendance and practical work were reported. This augurs well for better and more uniform quality in the output of the creameries of the Maritime Provinces during this and succeeding seasons. The cheese makers' course had just opened with a fair attendance and a prospect of an increase in numbers on the following day. Superintendent MacKay was ably assisted by Messrs. Barr, Robinson, McDougall, Mitchell, Morrow and other prominent dairying experts.

The College herds are looking and doing well. The calf pens contain some exceptionally promising youngsters. Bull calves seem to be a rather good crop this year, and while they will sell at profitable figures when ready for sale as breeders, Prof. True-

DELCO-LIGHT

ELECTRICITY FOR EVERY FARM

$390 Brings You Electric Light

A self-contained, compact, efficient electric plant for $390 to $465! That can be had in the Delco-Light plant—safe, durable, reliable.

A wonderfully simple equipment—a compact sturdy gasoline engine, generator, switchboard and storage batteries. Easy to understand, easy to operate. Children are looking after Delco-Light plants to-day.

You can rely on Delco-Light giving you the utmost services that electricity offers—brilliant, safe, clean electric light, convenient, cheap electric power.

It provides current that will flood with light every room in your house, the barns and sheds, outdoors. No more drudgery or time wasted in cleaning, filling and lighting smoky oil lamps.

It provides power that will do mechanically all the milking, separating, churning, washing, water-pumping, feed-cutting.

Small, compact, sturdy—it starts on the pressing of a lever. Stops automatically when batteries are fully charged. Engine is air-cooled—cannot freeze anywhere.

DOMESTIC ENGINEERING COMPANY
DAYTON, OHIO

Economical Electricity

No complicated details about the Delco-Light plant—no big upkeep costs. Lights the average home for less than five cents a day. Saves hours of time spent on chores and housework because of the better, more convenient light it gives. Allowing only 10c. an hour for labor on your farm it will save you at least $127.40 each year. It earns its way, by saving hours of time and labor.

The Useful Power Stand

A portable, efficient sturdy motor can be had with the Delco-Light. Runs from the nearest light socket. Carry it anywhere—it will drive all your light machinery. Uses up very little current.

FREE ALL ABOUT DELCO-LIGHT

A lot of literature has been prepared about Delco-Light. Send for it. Cost you nothing and will interest you intensely. Shows how farm-life is made easier, more attractive by Delco-Light wonders.

WRITE TO

C. H. ROOKE, Limited
Distributor
168 Bay Street, Toronto

Ewing's Grass and Clover Seed

No. 1 Government Standard

has earned a high reputation for sure germination, sturdy growth and heavy crops.

We buy the seed from the districts which we have found produce the cleanest and best strains. Then we clean and re-clean it until it comes well within the Government Standard in freedom from those noxious weeds that are so easy to introduce to your fields, and so hard to eradicate.

Some of our famous Brands :

Ewing's "Canary" Brand Early Red Clover.
Ewing's "Eagle" Brand Late Mammoth Red Clover.
Ewing's "Best" Brand Alsike Clover.
Ewing's "Sun" Brand Timothy.
Ewing's "Moon" Brand Timothy.

All No. 1 Government Standard.

If your dealer does not handle Ewing's Seeds, write for prices and catalogue to 49
THE WILLIAM EWING CO. LIMITED, *Seed Merchants*, McGill Street, MONTREAL.

man would like to see a change in the programme in favor of a higher percentage of heifer calves. There are some splendid producers in the College Holstein herd, and as the head of the herd is exceptionally well bred from the production standpoint, the heifers from such a mating should soar well up with the top notchers of the breed. The bull calves will be sold to agricultural societies and individual farmers, and there is not a shadow of doubt of the uplifting influence they will exert in the various districts to which they will be taken.

10,543 HAIRS ON A SQUARE INCH OF BEAR SKIN

In the novel Zoological Contest recently advertised throughout Canada by John Hallam, Limited, as to how many hairs were on a square inch of bear' skin, the first prize of $50.00 went to Mrs. Jas. A. Davis, Jr., Box 24, Acme, Alta., who estimated 10,500 hairs.

The following Maritime Province names appear among the prize winners:

5th prize, $10.00, Mrs. J. Frank Roach, Sussex, N. B., 10,777.

8th prize, $10.00, Mr. Chas. T. Duncan, 214 Dominion St., Moncton, N. B., 10,241.

18th prize, $5.00, Jennie A. Parks, Upper Derby, N. B., 11,056.

19th prize, $5.00, Mrs. Jas. McLeod, R. F. D. 5, Mermaid, Lot 48, P. E. I., 10,012.

21st prize, $3.00, Mrs. Clare B. Soucie, St. Anne de Madawaska, N. B., 10,000.

27th prize, $3.00, Miss Julia B. Murphy, Newcastle, N. B., 10,000.

29th prize, $3.00, Mrs. Jos. Cormier, Bonsecourt, N. B., 10,000.

40th prize, $1.00, Erle V. Hinton, Doaktown, N. B., 11,568.

54th prize, $1.00, Walter A. Dougan, Hamstead, N. B., 12,992.

60th prize, $1.00, Mrs. Thomas P. Murphy, Exmoor, North Co., N. B., 8,000.

62nd prize, $1.00, Yolande Arseneau, Bonsecourt, N. B., 8,000.

The estimates varied from "no hair" up to "several millions", but the actual number which was on a square inch of bear skin, carefully checked, was 10,543.

THE HERD BULL

Most farmers realize the important part the bull plays in the herd. They admit that "the bull is half the herd," yet many, after paying a high price for a good individual, let him deteriorate through improper care. The care of the sire in service is fully as important as his selection. If a bull is vigorous and healthy it is safe to assume that he will transmit those qualities to his offspring. I consider it of prime importance to keep the bull always strong and healthy, so that his progeny will be vigorous.

A ring should be put in the bull's nose when quite young, and from the first it should be used when handling him in service or feeding. He is more easily controlled and becomes more gentle when he knows who is master. I take no chances with a bull, however gentle he is. The most gentle are very uncertain and should be watched carefully, otherwise the attendant is liable to meet a tragic end. Never aggravate or mistreat a bull; to do so is to invite trouble of the worst kind.

Intelligent feeding is very important. A bull should have grain the year around. Strength rather than fat should be aimed for in feeding. The dairy sire should be fed such feeds as wheat bran, oil or cottonseed meal. Beef sires should be fed more largely on fattening foods, such as corn. If available, silage is ideal in the ration of either type and should, by all means, be used. Clover hay is excellent. The above foods are available upon almost every farm and there is little excuse for so many poorly fed bulls.

Exercise is very essential for the bull's health, and if taught when young he can be made to work, thus adding to his value and health at the same time.

If taught to run a tread power he can be used daily in pumping water, churning, washing, running the fanning mill, and many other ways. If not made to work, the bull should have daily exercise in a strongly fenced field or yard, allowing him to be by himself. Cows should never be allowed to run with him. It is best to keep the bull in a secure stall at night. If he must have a stall in the cow barn never retire without being sure that he is secure for the night.—C. J.

Good-bye to Dull Days

Touring advantages with a Ford car lift farm life out of the rut of hard work. Good-bye to dull days if you have a Ford on the farm. The stay-at-home family craves the pleasures of town life—the jolly parties, the entertainments, the lectures, shopping in town—the change that's better than a rest.

Away, five, ten, fifteen miles in the evening! Back before 10 o'clock, up early and fresh for work next day with a new enthusiasm that livens up everybody. Nothing can take the place of the automobile on the farm for healthy, wholesome, invigorating enjoyment.

Thousands of farmers in Canada use Ford cars with satisfaction. Donald Murray, Kennedy, Sask., says:—"A Ford is a necessity on every farm. I would not be without one as long as I have money to buy one."

But there are other reasons than recreation for adopting the Ford. It takes its place in the day's work. It is your strongest help and time-saver for emergency trips to town. It cuts the cost of running and repairs to the minimum. You can use it profitably and enjoy it constantly. Buy one now.

Ford

Runabout - $475
Touring - $495
F.O.B. FORD, ONT.

Ford Motor Company of Canada

LIMITED

FORD - - - ONTARIO

33

PREPARING FOR WOOL SALES

The following example will serve to explain the foregoing statements. If a manufacturer can utilize a certain grade of wool at fifty cents a pound clean and he is shown two samples in the grease, similar in every respect except cleanliness, one shrinking, for instance, 50% and the other 25%, he can pay for the former only 25 cents, while he can afford to purchase the latter at a price to the producer of 37½ cents. This alone should show the advantage of preparing a cleanly article.

As a general rule, the long-wooled sheep possess the lightest shrinking wool; the fine-wooled or Merino, the heaviest. The former will yield, under average conditions, from seventy-five to sixty pounds of clean wool fit for manufacture from one hundred pounds of wool in the grease; the latter, from fifty to twenty pounds of the clean product. The greater shrinkage of Merino wool is explained by reason of the fact that it has a much larger yolk content than the coarser types, to which sand and dirt cling more readily.

In order that sheepraisers may gain a more definite knowledge of the character of their wools with respect to shrinkage, the Dominion Live Stock Branch of the Department of Agriculture will make actual scouring tests of uniform samples of wool prepared for market under its direction by Wool Growers' Associations. This information will assist producers in understanding better the grading methods and will enable them to make practical use of the tables which the Live Stock Branch has published in booklet form.

Directions for Preparing and Packing Wool

(1) Shearing should be done on a smooth board floor, never on the dirt, and the fleece should be kept as compact as possible.

(2) Fleeces should be tied with paper twine, never the sisal or ordinary binder twine. Turn in the sides of the fleece with the skin or clipped surface outward. Then fold alternately the neck piece and the tail portion until they meet in the centre of the fleece. This arrangement permits the fleece being readily undone in the mill. Folding and tying may be facilitated by the use of a fleece box, which at the same time gives greater compactness and uniformity to the fleece.

(3) The wool should be packed in very closely woven jute, hemp or paper-lined sacks.

(4) Tags or dung locks should never be included with the fleeces, but always packed separately if the wool is adhering to them.

(5) All black or grey fleeces should be packed by themselves.

(6) Lamb fleeces, possessing unusual quality and length, may well be kept apart from the others and offered for sale as a distinct class.

(7) The wool should be absolutely dry at shearing, and should never, subsequently, be permitted to become wet. Damp wool, in storage, will ultimately assume a yellowish color, which will prohibit its use in the manufacture of white yarn. Besides, mildew may attack it, which will impair the tensil strength of the fibre. Manufacturers greatly dislike and prefer not to purchase wet wool except at a considerable reduction.

(8) Tubwashing should not be practised. If washing is followed at all, let it be done on the sheep's back, and at the time of shearing keep the washed separate from the unwashed. In tubwashing the various qualities of the fleece are so badly mixed as absolutely to prevent sorting, which comprises a separation or division of the fleece into lots containing fibre of reasonably uniform length and fineness. This operation is performed in the mill and each sort may be used for a different purpose in manufacture. Sorting is necessary by reason that a great disparity exists in the qualities of wool growing on different parts of the body. The finest wool is on the shoulder; the coarsest on the thighs; and the shortest on the belly. To serve as a practical illustration, a medium fleece may be roughly differentiated into five classes or sorts; first, back, sides and brisket; second, neck; third, belly; fourth, thighs; and fifth, brokes, or short locks and tags.

Correlation of American, British and Canadian Qualities (Grades) and Their Distinctive Terms.

		CANADIAN.	
American	Britis	Domestic	Range
Fine	64's-6 's		Fine
½ blood	60's	Fine	
⅜ blood	56 s	Fine Medium	Fine Medium
¼ blood	50 s	Medium	Medium
Low ¼ blood	44's-4 s	Low Medium	
Common	40's	Coarse	Low
Braid	36's	Lustre	

Complete Classification of Canadian Wools

Western) Domestic Fine Medium W
Eastern) (Firsts and Seconds) A

Western) Domestic Medium Comb- S
) ing
Eastern) (First and Seconds) H

Western) Domestic Low Medium E
) Combing
Eastern) Domestic Coarse Comb- D
ing or
Western) Domestic Lustre Combing U
Eastern) N

Western) Domestic Fine Medium W
) Clothing
Eastern) (Firsts and Seconds) A

Western) Domestic Medium Cloth- S
) ing
Eastern) Firsts and Seconds) H

Western) Domestic Low Medium E
Eastern) Clothing D
Western Range Fine Staple.
Western Range Fine Medium Staple.
Western Range Medium Staple.
Western Range Low Staple.
Western Range Fine Clothing.
Western Range Fine Medium Clothing
Western Range Medium Clothing.
Western Range Low Clothing
Rejections:
Gray and Black.
Locks and Pieces.
Tags.

Fort William acts as the dividing line for Eastern and Western wools. Domestic refers to wool produced in small lots upon the farm, while Range applies to wool raised upder ranching conditions. "Firsts" represent domestic wool shrinking under 50%; "Seconds", over 50%.

Glossary of Wool Terms.

Black Wool.—Includes all wool either partially or wholly black, brown or grey.

Braid.—A grade name for coarse wool of a lustrous nature.

Britch.—That part of the fleece which is very coarse, produced at the extreme end of the sheep over the thighs.

Brightness.—Wool of light appearance.

Hog Raisers Can Lower The Cost of Pork Production

Big profits cannot be expected from Hogs that cost too much to fatten. Unless a Hog's digestion is good he cannot earn you a penny, as too much high-priced grain passes through its system undigested and is wasted.

Can You Afford to Waste High-priced Grain Feed ?

Remember, it is not what a Hog eats, but what is digested and assimilated, that gives strength, rapid growth or quick fattening.

INTERNATIONAL Stock Food Tonic

used as directed for Hogs gives appetite, pure blood, perfect digestion and assimilation, good health and quick growth. It quickly expels worms and keeps the system in such a clean and healthy condition that it makes worm development impossible.

International Stock Food Tonic is endorsed by the best known Hog raisers the world over. It has never been equalled for promoting rapid growth, and enabling Hogs to stand the forcing process without loss of vigor or digestive powers.

The cost to use this preparation is remarkably small—"3 feeds for one cent." Just try it on one batch of Hogs. You will be quickly convinced of the big extra profits it will make you.

Sold by dealers everywhere, 50c. and $1.00 packages. $1.50 lithograph tins, and 25 lb. pails $3.75. Buy from your Local Dealer. If he cannot supply you, write us direct.

INTERNATIONAL STOCK FOOD CO., LIMITED
TORONTO - ONTARIO

202

LONG WIRES

THE nightmare of the fence manufacturer is a problem of turning out fence with horizontal wires of even length—each wire having exactly the same tension as the one next to it.

While mechanical improvements in fence weaving machinery have helped, still, accuracy in product is the result only of eternal vigilance on the part of operators and expert overseers. This improved machinery and expert supervision costs much money. But we prefer to pay the price, so that we can build our trade on the reputation for accurately-made fencing, and consequently satisfied customers. We could turn out cheaper fencing, if so minded, but we won't. We know such fencing would not be RIGHT, and we are pretty sure it would not pay in the long run.

Be careful in selecting your fencing. When you are ready to hear from us, ask for our 1917 printed matter.

THE PAGE WIRE FENCE COMPANY,
LIMITED
45 Dock Street, - ST. JOHN, N. B.

Butter Parchment at the Farmer Office

Break in Wool.—Wool, weak at one particular point of the staple, above and below the break the wool is usually sound.

Broken Wool.—Wool that has been torn or become detached from the fleece.

Broad.—A straight-fibred, non-elastic wool.

Carbonizing.—A chemical process by which all vegetable matter is destroyed in the wool.

Carding.—An operation which prepares the wool for future manufacturing processes by disentangling the fibres and rolling them in the form of rope.

Casing.—To separate and pack fleeces of the same quality in bales or sheets.

Classing.—A term used in Australia for grading of fleeces after being skirted.

Clothing.—A term applied to wool of not sufficient length to be used for not sufficient length to be used for Combing purposes.

Combing.—A term applied to wool having sufficient length to be especially adapted for the Worsted process of manufacture. Length of combing wool is usually 3 inches or over.

Come-Back.—The wool from a sheep which is the off-spring of mating a fine wooled ram with a ewe, the result of a cross between a fine wooled ewe and medium or long wooled ram.

Cotted.—Wool, matter either through lack of feed or sickness, which stops the flow of a sufficient amount of yolk in the wool, and thus creates felting of the fibres on the sheep's back.

Crossbred.—Wool from a sheep, being the off-spring of a cross between fine and medium long wooled sheep.

Character.—A true, sound stapled wool with evenness of quality and regularity of crimp and serrations.

Cow-Tail.—Refers to wool of extremely low quality corresponding to hair, found at extreme end of the fleece.

Crimp.—The waviness of the fibre. The greatest number of crimps are found in the fine wool of high elasticity.

Coarse.—A low grade of wool produced from sheep with but little or no trace of Merino blood.

Demi-Lustre.—Wool that is not sufficiently lustrous or bright to be classed or graded with pure-bred Lustre Wool.

Down Wool.—Wool produced from the Down or dark-faced breeds of British sheep.

Density.—Means the number of fibres produced on a given area of the sheep. The greater the number of fibres, the greater the density.

Delaine.—Wool produced from fine wooled sheep and of sufficient length to be suitable for use in Worsted manufacture.

Defective.—Wool, discoloured, moth-eaten or containing vegetable matter.

Degreased Wool.—Wool from which the grease and dirt have been extracted by the Naphtha process, in a machine especially designed for the process and perfectly sealed to prevent Naphtha fumes from escaping.

Domestic.—Refers to wool shorn from sheep raised under farming conditions.

Felting.—The property wool possesses of matting or felting together.

Fellmongering.—A term used to describe the removal of wool from sheep pelts.

Fribs.—Denotes short greasy locks and second cuts.

Fall Wool.—Wool shorn in the fall which represents a five to six months' growth and is the second shearing within the year.

Frowsy.—Wool, dry and harsh, owing to lack of sufficient suint.

Grading.—Term used for arranging fleeces into qualities or grades without untying the string.

Gritty.—Wool containing an excessive quantity of sand or grit.

Grease Wool.—Wool shorn from the sheep in its natural condition.

Hog or Hogget.—This term is applied to the first fleece taken from a sheep.

Kempy.—Wool that contains hair-like fibres, which will not take the dye.

Line Fleeces.—A fleece that is, in quality and length, between two grades.

Lambs' Wool.—Wool shorn from lambs.

Lean Wool.—Wool with very poor spinning properties.

Lustre Wool.—Wool having a glossy appearance, produced mostly from pure-bred Cotswold, Lincoln and Leicester sheep.

Lofty.—Wool of a springy nature and a high degree of elasticity.

Matchings.—Portions of fleeces of the same quality from which all inferior wool has been removed.

Modock.—Wool from sheep, raised under ranching conditions; subsequently shipped to farms and there fed and shorn.

Noil.—Short fibres which have been extracted from the long fibres by the combing process.

Off-Sorts.—Wool, sorted from a fleece such as fribs, stained, clips, britch and belly piece.

Pulled.—Wool taken from pelts which have been washed and treated with chemicals to open the pores in order that the wool may be pulled from the skin easily.

Quality.—Refers to diameter of fibre and spinning properties of the wool.

Regain.—The increase in weight of dry, hot wool, exposed to the air.

Rejection.—A term applied to wool containing considerable vegetable matter, black, cotted or kempy fleeces.

Range.—Refers to wool shorn from sheep raised under ranching conditions.

Run-out Wool.—Wool lacking character and with an exceedingly large percentage of off-shorts.

Skin-Wool.—Wool removed from sheep pelts.

Shrinkage.—The actual weight lost in wool scouring.

Stained.—Wool which is discoloured by coming in contact with urine, manure, etc.

Scouring.—Refers to the process of removing all extraneous matter from wool, making it perfectly clean for manufacture by machines especially adapted for the purpose.

Skirtings.—The off-sorts taken from the fleece by removing all the outer edges.

Slipe Wool.—Wool removed from pelts which have been treated with lime.

Shafty.—A good, long, well-grown and strong-fibred wool.

Shivy Wool.—Wool containing small particles of vegetable matter.

Shearlings.—Wool pulled from the pelts of sheep which have been slaughtered after shearing time, consequently it is short fibred, also a term applied to one-year-old sheep.

Staple.—A tuft of wool fibres clinging together, held in place by binders, which in turn connect the staples together forming a fleece; also a term used to denote the combing length of Range or Territory wool.

Semi-Bright.—Wool too dark to be classed as bright; but lighter and brighter than range or territory.

Top.—The product of the process of combing, after the noil has been taken out and the fibres laid parallel in one untwisted strand.

Territory.—Refers to wool shorn from sheep raised in the Western States of the United States.

Tags.—Locks heavily besmirched with manure.

Tubwashed.—The result of a system of washing wool in the fleece, after shearing, by some farmers.

Teg.—Wool shorn from a shearling or yearling sheep; especially used in connection with the Down breeds.

Unwashed.—Wool shorn from sheep in its natural condition.

Unmerchantable.—Wool that has been poorly washed upon the sheep's back or the wool allowed to remain on the sheep for some time, before shearing, after having been washed.

Wiry Wool.—Wool with very poor spinning properties owing to lack of elasticity and pliability of the fibre.

Washed.—Wool shorn from sheep washed just prior to shearing.

(Continued on page 416)

Don't Worry

about the future size of your herd

The capacity of the Standard cream separator is interchangeable. You take no chance on your future separator requirements. If later on you find that you need more cream separator capacity to take care of your larger herd, all you have to do is to replace the bowl and fittings—not the whole machine, if you have the

Standard

Interchangeable Bowl

This bowl and casing lift right out—easy to replace with a larger size.

This important, exclusive feature is certainly a money saver to dairymen and farmers. It costs a great deal less to interchange bowls with the Standard than to exchange the entire machine for a new one. Putting in the new bowl means no loss of efficiency, for the bowl is changed complete. The gearings of all Standard machines are made for 100 pound capacity. Think of the over-capacity advantages you have in 350 to 800 pound Standards!

All you have to do in order to change a 350 pound capacity machine into a 450, 600, 800 or 1000 pound machine is to substitute your bowl for the different capacity bowl and attachments that you require. We accept the used bowl in exchange, less reasonable allowance for wear and tear. So you see you need not worry a minute about the size of machine you buy now.

Other features of the Standard are its low supply can, splash oiling system requiring attention only every three months instead of daily oiling, and its close skimming capacity; the Standard gets all but one-tenth of a pound of cream per 1000 pounds of milk skimmed, while other separators lose half to a whole pound of cream. Write for free literature.

The Renfrew Machinery Co., Limited

Head Office and Works, RENFREW, ONT.

Agencies almost everywhere in Canada. Eastern Branch: SUSSEX, N. B.

A START WITH QUALITY LIVE STOCK ON A FORMERLY ABANDONED KINGS COUNTY FARM.

A Farmer representative had the pleasure, a few days ago, of visiting the home of Mr. and Mrs. P. J. Lively, Mt. Middleton, near Sussex.

Mr. and Mrs. Lively are natives of Sussex, England. They have spent several years on large sheep ranches in the Argentine Republic, Patagonia, and in the Canadian West. They purchased their present home about a year ago, and have named it "New Farm", after their old homestead in England.

They have established a small flock of pure bred Oxford Down sheep and already have a 100 per cent crop of lambs frisking about. They have also established the foundation for a herd of pure bred Large Black Swine, by importing a trio from England, where the breed is rapidly gaining in popularity.

So far as we know, there is not another herd of Large Blacks in the Maritime Provinces, and only very few in Canada.

In the poultry line they have established a flock of Light Sussex fowl. Their flock of 20 hens laid 476 eggs during the month of March.

Mr. and Mrs. Lively purchased, what is commonly known in New Brunswick as an abandoned farm. Woven wire fences have already supplanted the broken down pole fences, and other improvements show that Mr. Lively knows his business and is beginning in the right way. He is aiming to establish quality bocks and herds by purchasing the best he can find for his foundation stock. We predict and wish Mr. and Mrs. Lively every success in their new, hospitable home.

DAIRY DIVIDEND

The Directors of the Pictou County Dairy Co., Ltd., recommend the payment of a seven per cent. dividend on the paid up stock of the company. During the past year 113,209 lbs. of butter was made at the creamery at Stellarton and $34,147.43 paid to the farmers for cream and $1,161.20 for milk. At the beginning of the year they had butter on hand to the value of $296.84 and closed with $1,985.20 worth in stock. During the year they sold, Butter $35,206.83; Buttermilk, $1,707.59; Milk, $1,387.68; Sweet Cream, $1,030.89; Cheese, $16.99. The total amount received for the products of the firm was $41,038.34. After paying all expenses the profit of the year is $1,529.47. The paid up capital of the company is $9,730.00 and while they carry in addition temporary loans of $4,400, the statement shows a surplus of assets over liabilities of $4,504.66. W. J. Maxwell and Son, of Mt. Thom, top the list of patrons, having supplied 6,966 lbs. of cream, for which they received $866.84.

One item in the receipt column is Government grant $100.00. It is small, but in view of the splendid showing made for the year the company might easily step out of the bonused class.—Eastern Chronicle.

DAIRY COURSE FOR THE MARITIME PROVINCES

The first Short ,Course in Dairying under the auspices of the three Maritime Provinces, was held at the College of Agriculture, Truro, N. S., from Mar. 7th to Mar. 31st. The first two weeks were devoted to creamery work and the second two weeks to cheese factory work. The course was only open to cheese and butter makers having at least one year's experience.

The College Dairy was specially fitted up for the course with the latest in creamery and cheese factory machinery, including two makes of pasteurizing vats, combined churns, printing machines, starter cans, moisture, salt and acid tests and for cheese making, agitating vats and new type curd mills, etc.

The attendance was much larger than was anticipated, the total enrolment being forty-one. The College staff took an active interest in the work and gave instruction in special subjects such as Milk Production, Chemistry, Bacteriology and Veterinary Science. Special instructors were secured as follows: Cheese Making, Mr. George H. Barr, Chief of the Dairy Division, Ottawa; Butter Making, Mr. Mack Robertson, Belleville, Ont. and Mr. F. T. Morrow, Creamery and Cheese Factory Inspector of Prince Edward Island; Milk Testing, Mr. C. W. McDougall, Supt. of Dairying, Sussex, N. B.; Cream Separators, Mr. Ben Gallant, St. Louis, P.E.I. The Course was in charge of Mr. W. A. MacKay, Provincial Dairy Superintendent.

Five Good Reasons for Buying this Good White Lead

1. It is absolutely pure, ensuring the brilliancy of any paint in which it is used.
2. It has great covering capacity and long life.
3. It is of unequalled, uniform "fineness"—is never crystalline.
4. It works easily under the brush.
5. It need not be scraped or burned off when, after several years, the building requires another paint.

Its high reputation has been gained by nearly 200 years continuous manufacture. Used and recommended by experienced architects, builders, painters, owners.

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OUR DAISY

Thrift is served, and health preserved, by wearing rubber footwear around the farm in rainy, sloppy weather.

Quality and long wear, whether in rubber farm boots, high rubber boots or rubbers, are assured if you choose a pair bearing on the sole any one of these Trade Marks:

"MERCHANTS" "JACQUES CARTIER" "DOMINION"
"GRANBY" "MAPLE LEAF" "DAISY"

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28 "SERVICE" BRANCHES AND WAREHOUSES THROUGHOUT CANADA 44

COSSAR STOCK FARM, Lower Gagetown, N. B.

Importers and Breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep. A number of choicely bred animals for sale.

G. C. COSSAR, Prop. J. MEIKLEJOHN, Agent.

Elmhurst Stock Farm !

Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N. S.

SHORTHORN CATTLE

Our present offering is a number of of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

J. E. HETHERINGTON
Codys, N. B.

Guernseys !

For Sale—Registered stock. Male or female.

T. D. BLAIKIE
Great Village, N.S.

Registered Stock for Sale

Guernsey and Ayrshires Bulls, ranging from nine months to eighteen months old.

Guernsey and Ayrshire New Milch Cows. Also Young Calves of both breeds. Last but not least, Registered Shropshire Ram Lambs. The above will be shown at Shubenacadie District Exhibition.

John McDonald & Son
Shubenacadie, N. S. Bloomfield Farm

FOR SALE
R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

BLUEBELL VIEW FARM

offers for sale one pure bred Holstein Bull Calf, 2 months old, whose grand sire was three times grand champion at Toronto and his dam has made over 12,000 lbs. milk in 10 months and tested 31-2 fat. He is well marked and right in every way. Price $40.00 if taken at once. We also have pure bred Berkshire Pigs for sale.

WALTER PAYNE,
Lake Edward, - - N. B.

Setting Eggs for Sale !

From Brahmas Light, Brahmas Dark, Cochins, Patridge, Silver Grey Dorkings, Houdans, S. C. Buff Leghorns, S. C. Black Leghorns.

We won on the above varieties at the Maritime Winter Fair, which was held at Moncton, and at the shows at Fredericton and Halifax. We won 60 firsts, 36 seconds and 10 thirds. All these winners are in our breeding pens of which we have a limited number of eggs for $3.00 per 15 or $5.00 per 30. We also guarantee eight live chicks from each setting and if not we will replace all unfertile eggs free of charge.

DAY BROS.,

129 West Lane, Moncton, N. B.

EGGS ALL THE YEAR ROUND

Not a day without eggs in the last four years. This is the record of our bred-to-lay Barred Rocks, Rhode Island Reds and White Wyandottes. Try a setting, one dollar each. Am now booking orders for Chester White pigs. Also offering a few good Holsteins.

Day old chicks, above varieties, 20 cents each during April, 15 cents each after April.

N. W. EVELEIGH,
"The Orchard" Sussex, N. B.

Lawndale Stock Farm

Jerseys and Shorthorns

Present Offering in Jerseys:

One Grade Jersey Heifer, dropped Feb. 22nd 1915, bred to our herd bull, "Ol Ferns Lad, 3289 She is due to calve next summer and is large and handsome. Sired by double grandson of "Champ. Flying Fox."

In Shorthorns We Offer:

One all red Bull Calf, dropped in Nov. 1916 Sired by first prize winner in his class Halifax Exhibition, 1915.

One all red Bull, dropped May, 1915, very large and handsome of proven worth in service.

One roan Heifer, dropped Dec. 3rd, 1915, out of a grand milking mother and sired by "Stately Monarch." Grand champion Halifax and Charlottetown, 1916.

One all red Heifer Calf, dropped Aug. 27th, 1916 out of a splendid prize winning mother and also sired by "Stately Monarch," as above.

Write for information.

I. M. LOVITT, M. D.,
Yarmouth North, - Nova Scotia

"Homestead Farm"

Holstein-Friesian Cattle
Clydesdale Horses
Shropshire Sheep
Berkshire Pigs

Our present offering is three bulls, fit for service. They are all good individuals and have good official backing. Can part with a few heifers ready to freshen next fall; also some bull calves. Our Berkshires are about all sold and we are now booking orders for ram lambs for fall delivery. Write for description and prices.

Long Distance 'Phone.

LOGAN BROS., Amherst, N. S.

GUERNSEY BULLS !

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA.

Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding The Farmers Most Profitable Cow should be sent to the Secretary of the Association

W. A. CLEMONS, St. George, Ont.

SPRINGVALE HERD

Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS
AMHERST, N. S.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Merce es," No. 11727, the sire of our 26.54 lb. Jr. 3 year old nd who so far has not tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particu ars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

McINTYRE BROS.,
Sussex - - - - - N. B.

SUNNYSIDE STOCK FARM

Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

BELLEVUE STOCK FARM

Shorthorn Cattle and Shropshire Sheep

Our Shorthorns have wintered well and we have a fine bunch of Calves for sale at any age required. Are booking orders for Rams for fall delivery. Our Lambs weighed from 100 to 115 lbs. last October and the present crop have come strong and extra good type.

C. A. ARCHIBALD, - Clifton, N. S.

NETHERLAND FARM, Hammond River, N. B.

HOLSTEIN CATTLE AND YORKSHIRE SWINE

WM. S. HARDING, PROP.

We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Foforit Schuilling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

For sale at present, one bull 20 months old; two bulls 10 months old, almost fit for service. Several bull calves that are dandies and as well bred as you could wish. Also can spare a few heifer calves from one to six months old. Inspection invited.

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM
R. O. M. HOLSTEINS

Present offering:—Bull Calf, month old. Weighed 112 lbs. at birth. Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seven days. This calf is a splendid individual and fit to head any herd when mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

FARMS FOR SALE

Send for FREE Catalogue; with descriptions and prices of over 1000 farms in Nova Scotia.

McCALLUMS LIMITED,
"The Real Estate Men"
Truro, - Nova Scotia

Chester White Pigs For Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B

FOR SALE

One dozen Bronze turkey eggs, $4.00. Best Buttercup eggs, $2.00 setting fifteen. Blue Orpingtons, $3.00 fifteen. Pair of fine Grey African geese, ready to lay, $12 (twelve dollars).

SARAH E. MOSES SMITH
Woodward's Cove - - N. B.

FOR SALE

5 Trios of S. C. R. I. Reds at $5.00 per trio. These are good colored birds. 1 two year old cock bird, R. C. R. I. 2 two year old cock birds, S. C. R. I Red.

Write for prices and particulars,
W. H. HENRY, Shubenacadie, N. S.

FOR SALE

Two pure bred Clydesdale Stallions, 7 and 2 years old. Shorthorn Bull, 5 years old, imported from Ontario. Write us for full particulars.

MORRIS SCOVIL & SONS,
Meadowlands, Gagetown, N. B.

Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,
33 Jubilee Road, HALIFAX, N. S.

HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast males. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order

W. J. M. MacLEOD, Sussex, N. B.

ELMHURST FARM

Booking orders for spring delivery of Berkshire pigs.

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorchester, N. B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B'

Ayrshire Oattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

FOR SALE.

Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

BLISS ANDERSON & SON,
Sackville, - - N. B.

ROSEWARNE S. C. WHITE LEGHORNS

HATCHING EGGS, $5.00 per 100.
DAY-OLD CHICKS, $10.00 per 100

Ready in March. Am now booking orders for eggs and chicks from my vigorous, free range, strain of selected heavy layers. Also some choice exhibition stock. Send for mating list to

ERNEST CRAZE,
Rosewarne Poultry Farm,
PORT WILLIAMS, NOVA SCOTIA

STRAWBERRY PLANTS AND OTHER NURSERY STOCK

also

EGGS FOR HATCHING
S. C. White Leghorns

The Ideal Farmer's Fowl. Layers of big white eggs and lots of them. Eggs $2.00 per 30.

Barred Plymouth Rocks

One pen choice birds. Eggs $2.00 per 30.

Send for Price List.

We also have pure bred Jersey bull calf for sale, from imported cow.

ORCHARD HILL FARM,
Brown's Flats, - - - N. B.

REGISTERED JERSEY BULL FOR SALE

A. J. C. C. registered. One year old January 1917. From my imported Jersey cow. Two grand dams in R. of P. This is an exceptionally fine animal and will be sold right. For further particulars, Apply to

R. A. BACKMAN,
Hillside Farm, - Lunenburg, N. S.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

SEAMAN and STEWART OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on. as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

FOR SALE—One litter of Berkshire Pigs.—A. E. FERGUSON, Bathurst West, N. B.

NATURAL CANADIAN TOBACCO LEAF—Ten varieties, 16c to 40c per lb Write J. J. GAREAU, St. Rhode l'Achigan, Que.

FOR SALE—100 bus. White Banner Seed Oats. Apply to ROY S. PARLEE, Lower Millstream, N. B.

FOR SALE—Two good Brood Mares, Percheron Pure Bred (Reg) Weight 1400 lbs. each. Apply to Thos F. Dunlap, Truro, Col Co.

FOR SALE—Shorthorns, one Cow, one Heifer and two Bulls.—C. S. WELDON & SONS, Upper Sackville, N. B.

FOR SALE—One Gasoline Engine, 4 H. P., second handed. Will sell at a bargain.—H. ROBERTSON, Upham Station.

FOR SALE—Registered Chester White Boar Pigs for May delivery.—W. S. COGSWELL, East Centreville. N. B.

FOR SALE—Pure bred Holstein Bull, 10 mos. old, also Bull Calf, six weeks old, both well bred. —JOHN J. McCABE, R. R. No. 1, Westville, N. S.

FOR SALE—At a bargain, the pure bred Hackney stallion, "Matchless." For particulars apply to JAMES LAMEY, Glenora, N. S.

STRAWBERRY PLANTS FOR SALE—We have a good assortment of best varieties. Send for price list.—JOHN N. CHUTE, Berwick, N. S.

FOR SALE—Eggs for hatching. Pure bred Rose Comb Rhode Island Reds. Good winter layers. $1.00 per 15.—MRS. B. H. SMITH, Young's Cove Road, N. B.

AYRSHIRE BULLS FOR SALE—One 18 mos. old, one 6 mos. and another 5 days For further particulars apply to LAMONT KENT, Stewiacke, Col. Co., N. S.

FOR SALE OR EXCHANGE—Will sell or exchange one Berkshire boar, 4 years old, in prime condition, fine breeder. Too good to kill. Lonewater Farm, Nerepis, R. F. D., Kings Co., N. B.

FOR SALE—Three pure bred registered Holstein Bull Calves, sired by Homestead Henger ald Rooker, No. 206520. one out of the daughter of a 32 lb. cow —RONALD HICKS, West Bathurst, N. B.

LEGHORN EGGS FOR HATCHING—From great laying strains; Rose Comb White and Rose Comb Brown. Eggs from either these pens, $2.00 per 15.—J. W. NIXON, Migonette, N. B.

FOR SALE—Pure bred registered Duroc Jersey Pigs for spring delivery. Foudation stock from best Canadian herds. Address EDWIN A. ESTEY & SON, Woodstock, R. F. D. No. 6, N. B.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

WANTED—Agent to introduce Dr. Waterman's Practical Stock Adviser. Thoroughly up to date, authentic, endorsed by Government. Commission or salary. For full particulars apply THE HERTEL CO., Publishers, Toronto.

WANTED—Persons to grow Mushrooms for us at home; from $15 per week upwards can be made by using waste space in yards or gardens (start now); illustrated booklet sent free. Address MONTREAL SUPPLY COMPANY, Montreal.

SUPERB STRAWBERRIES—July 1st to Nov. 1st. Large stock of fine plants. We replace any that fail to grow. 10000 now in stock. $2.50 per 100 plants, postpaid, to any adddress. Everything i nursery stock. Write us for prices.—ST. JOHN VALLEY NURSERIES, Burton, N. B.

HATCHING EGGS AND CHICKS—From White Leghorns, Barred Plymouth Rocks, Golden Wyandottes, White Wyandottes, Black Tailed Japanese Bantams. Eggs $1.00 to $2.50 a setting. Belgian and Black Siberian Hares, and Flemish Giants. Circular free. Agent for Cypher's Incubator Co.—VICTOR G. FULLER, 14 Lawrence St., Amherst, N. S.

ST. REGIS—the ever bearing raspberry fruit untill frost. Herbert, red; Cumberland, black; Golden Queen, yellow; Schoffer's Colossal, brown. 20 plants for $1.00, postpaid. Everything in nursery stock.—ST. JOHN VALLEY NURSERIES, Burton, N. B.

BRONZE TURKEY EGGS from large hens, headed by 45 lb. gobbler. $4.00 per 9. Bred-to-lay B Rock, W. Leghorn, W. Wyandotte eggs, $2.00 per 13. Guinea eggs, $1.25 per 9. Guinea fowl (cock and two hens), $4.00. Stamps for information.—HOTEL DIEU FARM, Chatham, N B.

FOR SALE—Pure bred Berkshire Pigs, six weeks old May 15th; choice stock; will register. —JAMES I. STEWART, Amherst Point, N. S.

EGGS FOR HATCHING—From prize winning Black Orpingtons at Moncton and Halifax shows, $2.00 per 15 eggs.—W. SWETMAN, 49 Weldon St., Moncton, N. B.

FOR SALE.—At a bargain pure bred Black Percheron Stallion, raising four years old; weight 1600 lbs.; a good individual.—ALBERT FLEMMING, Truro, N. S

CANADIAN POULTRY REVIEW has an active and interesting Maritime Department in each issue. Sample for the asking. 184 Adelaide St. West. Toronto.

FOR SALE—Two choice 6 months old Jersey bulls from heavy producing, high testing dams sired by one of the best Jerseys in N. S. To be sold reasonable for a quick sale. H. F. North, Canning, N. S.

FARM FOR SALE—In P. E. Island, ready for seeding. About 200 acres. Large barns abundant wood, rails, lumber and alder mud. Mile and quarter from railway station. On telephone line. Cheap. Good terms. Box 373, Sussex, N. B.

WANTED—Experienced farmer for Brunswick Hotel Farm. Prefer a man who has a son who could assist him. This farm is near the city of Moncton and is run in connection with the hotel.—MRS. GEO. McSWEENEY, Moncton, N.B.

EGGS FOR HATCHING—Parks Barred Rocks are the greatest laying strain of this variety bred to-day; bred for egg production for over twenty years. $1.50 per 15. Blanchard's White Leghorns, $1.50 per 15.—J. H. PRICHARD, Summerside, P. E. I.

EVERY WOMAN wants our One Hand Automatic Egg Beater and Cream Whip because of its every day usefulness. Built to satisfy. Guaranteed to satisfy. Send to-day and try one. 25c postpaid. Refunded if unsatisfactory. Men and women can profitably handle our goods. Write for information.—FREER MFG. CO., 301 Main St., Foster, Que.

Elmwood Stock Farm

Offers for Sale :

Two cho ce young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Eggs for Hatching

From two pens of pure bred White Wyandottes, parent stock from Martin and Beulah Farm strains. Also from one pen of Single Comb Rhode Island Reds, good laying strain, good color. Price $1.25 per 15.

HATTIE E. CROWE,
Lower Truro, - - - N. S.

LABELS

Live-stock Labels for cattle, sheep and hogs, manufactured by the **Ketchum Manufacturing Co.**, Box 501, Ottawa, Ont. Write for samples and prices.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

Do You Want It ?

One 200 Egg Peerless Incubator also Brooder to match. These were only used for two hatches and are in every way first class. Write and find out all about this chance if you are interested. Remember there is a bargain for somebody—it may be you.

T. J. HAWKINS,
Stewiacke, - - - Col. Co., N. S.

R. O. P. HOLSTEINS !

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,

"Riverside Farm," - Victoria, P. E. I.

EGGS FOR HATCHING !

From two grand pens of S. C. R. I. Reds and one pen of Rose Comb R. I Reds. Price $3.00 per 15 eggs.

Write for particulars to

W. H. HENRY,
Shubenacadie, N. S.

PREPARING FOR WOOL SALES

(Continued from page 413)

Wether.—Refers to all fleeces removed from sheep subsequent to the first sharing, also to a castrated male sheep.

Yield.—The amount of clean wool suitable for manufacture after the grease and foreign matter have been removed by the scouring process.

THE LOOKING GLASS AS A MACHINE

Defining a machine we say, "A machine is a device that makes work easier and accomplishes that work in a shorter period of time." Among some of the simpler machines we find the button hook, scissors, knife, etc. Probably you are wondering just how the looking glass may be likened to a machine. Everyone is familiar with its use in the household. But a small mirror is often a very convenient machine for reflecting light into a dark place where work must be done. Again, it may be used in getting a straight line by means of reflected sunlight. It is commonly used by engineers in producing a line through dense brush, thus eliminating the work of clearing away thick brush or undergrowth. Again, by means of the mirror and the use of sunlight, men are able to dig deep holes into the ground or tunnels through the mountains. Its principles are made use of by some of the greates astromers by reflecting the light from the star to the eye of the observer.—Frank P. Goeder, Colorado Agricultural College, Fort Collins, Colorado.

SALT SOLUTION USEFUL IN CONTAGIOUS ABORTION

A salt solution of the proper strength is stimulating to mucous membranes and is an excellent antiseptic. It is recommended to farmers and stockmen in case of contagious abortion of cattle. A heaping tablespoonful of dry salt weighs approximately one ounce and this amount added to one gallon of boiled water, and used at body temperature, makes an excellent irrigating fluid.

Mr. J. B. Daggett has tendered his resignation as Secretary for Agriculture and has accepted the position of manager for New Brunswick for the Canadian Fertilizer Company. He has also accepted the position of representative of the Goold, Shapley & Muir Company, Limited, Brantford, Ontario, manufacturers of water supply goods, concrete mixers, grain grinders, gasoline and kerosene engines, traction engines, wind mills, etc. Mr. Daggett's territory for the latter company for the present is the River Countries.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, MAY 8, 1917. Number 15.

For an Appreciation of Clover

By O. C. Hicks

Editor The Maritime Farmer:—

We already know so much about the clovers commonly grown in the farm economy that there would seem to be no warrant for this special commendation of this group of plants to the farming community, (N. B.) But the fact that so many erroneous ideas prevail oncerning the seeding habit of common red clover and the consequent evil which the farmers and the agricultural interests of our province have suffered, is given as sufficient reason for the following remarks.

The popular idea as to the distinguishing characteristics of any of the clovers, is that the leaves occur in threes, (Trifolium) that it is a leguminous plant, that is, one which bears its seeds in a pod or husk, and that it exercises a peculiar influence of building up the soil fertility. Many of them are our most highly prized forage crops among which Common Red Clover holds the premier position and may well be styled 'the queen of forage plants of New Brunswick.'

A story of the origin, history and introduction of the various clovers up to the time of their adoption into our cropping systems is a romance. I presume that some of them were to be found in the garden of Eden, others, have been discovered by explorers in almost inaccessible parts of the world and through them brought to us.

The following varieties of 'clovers' which occur either wild or as cultivated in the ordinary cropping systems of the province, each of which possess real merit, will herein be discussed:—

Red Clover (Trifolium pratense), White Dutch Clover) T. repens), Alsike Clover, (T. Hybridum), Sweet Clover, (White Melilotus alba), Alfalfa (Medicago Media) and Yellow Hop Clover, (Trifolium Agraricum). All of these varieties will be found worthy of consideration for some special purpose in almost any locality of the province.

The most valuable to our agriculture is the common red variety—with its sub-sort known as the long, late or mammoth red clover; while the least valued is Sweet Clover. There is also a yellow type of sweet clover (M. Offiern alis), both of these are valued highly as honey plants.

Clovers differ from one another in habit of growth, duration, persistence in growth, ability to withstand low temperatures, seeding habit and palatibility. Alfalfa, White Dutch and Alsike are of perennial nature. Red and Sweet Clover are classed as biennials.

There are two characters common to all clovers which are of especial significance viz.: their high protein content; 2. they are insect fertilized, i. e., entomophilous. To this latter character is due the fact that there are no natural 'pure lines', and herein

(6) By Cultivation—In some a quick-growing plant of the Common Red sort, occassionally an annual; to the slower maturing mammoth red sort, among which plants exhibiting a perennial habit are frequently found.

The several varieties mentioned are variously adapted to rotations, this adaptation lessens as the natural period of life of the plant lengthens, consequently alfalfa is not so well suited to short rotations, while the red variety is much favored. This variety is more commonly sown to provide hay rather than pasture in the first crop obtained.

Probably the most profitable rotation to our agriculture, in which red clover thrives for at least a part of three years, is the four-year rotation including—(1) small grain, wheat, oats or barley, seeded with timothy and clover; (2) hay; (3) hay or pasture; (4) roots, (potatoes), helped out corn, and sometimes a mixture of peas and oats for soilage purposes.

With reference to adaptation to soils, red clover thrives exceptionally well on upland which has been cleared from a growth of hardwood timber. The so-called Mammoth, or long-late variety, appears to withstand drought conditions better, as the common red is characterized by a rapid growth in early spring and consequently demands a continuous supply of moisture to produce a persistent growth until autumn, whereas the long-late type produces but very little growth after the first cutting.

Alsike clover, besides being adapted to clay soils, grows well on low-lying wet soils, which are well stored with humus—likewise the White Dutch variety.

Alfalfa requires especial attention as to its habitat, while Sweet Clover is least particular of any of the clovers, and will grow in infertile soils and exposed situations.

The yellow hop clover grows wild in profusion along the line of the Gibson branch railway in York County, and is becoming very common in other parts of the province also. It is a good pasturage plant, particularly in the early stages of growth.

All clovers like deep soils of humus and heavy clay mixture, and practically all have a fondness for a soil containing a liberal supply of lime or calcium, which makes the soil basic in character rather than acid. Good drainage, lime and humus are therefore three requisites of a soil in which clover will thrive, and for a general stimulant and fertilizer, wood ashes are very effetcive.

In a humid climate, such as prevails in the Maritime Provinces, clovers are usually sown with a nurse crop, with plants, ing of the crop several times which the clover crop is regarded as secondary, hence the preparation of soil for the grain must suffice for the clovers also. A proper appreciation given to the securing of a good catch of clover, would often result in more attention being paid to the preparation of the seed bed to the benefit of both crops. Sowing is almost invariably done in the spring, and as a rule the earlier the sowing is done the greater is the prospects of a resulting catch.

A general impression prevails that seeding down with a grain crop is the only practicable, economical method of securing a productive hay-field. Associated with this idea is the custom of sowing grass seed too thin to secure a heavy yielding mowing. It is difficult for grass and clover to be too thick. Hide-bound hay fields are not caused by thick seeding, but because of being overrun by wild grasses and weeds, which spring up when the good grasses are enfeebled by mowing, especially if the mowing is followed by dry weather.

Failures to secure a good stand of clover are frequently due to mistakes of seeding. (1) Too little seed used. (2) Nurse crop sowed too thickly. (3) Seed covered too deeply. (4) Sown too late in spring, that the plants suffer from hot weather, or exposure to rays of sun reflected by a stubble field.

It is well to keep in mind the fact that of any four farm crops, the hay and pasture crop is the essential one, and the one which is most cheaply harvested. Therefore see to it that your mowings are conditioned and then, feed them well.

All the clover seed used in the province should be produced within the province. The results in clover-seed production secured last year show that the growing of clover seed can profitably become a part of the regular cropping systems of N. B. farms.

Seed is produced by either first or second crop red clover.

The advantage in securing seed from second crop is that a hay crop has already been procured and the seed crop is of the nature of a bounty. "To him who hath clover, other things shall come in plenty."

In sections where clover-seed growing is well established, the second crop, produced after cutting or pasturing the first crop before the latter part of June, is relied upon because of the infestations of a fly,—the clover seed midge, which prevents the formation of seed in the first crop of flower heads. With the removal of the hay crop to the barn when these insects are in the maggot stage, the during ble?. Is it liable to spread to other otherwise there are two broods yearly which prevent the forming of seed in both first and second crop of clover.

Infertile ovules are of common occurance in red clover flower heads and occur to a considerable extent throughout the season. The largest percentage of infertility has been found in first crop clover,—usually accompanying moist soil and atmospheric conditions. With such blossoms the presence or absence of bees has no effect, as the ovules have no reproductive cells, hence there can be no fertilization and no formation of seed.

It is believed, however, that weather conditions during blossoming time, which accelerate the activity of bees greatly affect the seed yields, for red clover is practically self-sterile and pollen must come from a separate plant in order to effect fertilization and seed production. As carriers of pollen, bees, both honey bees and bumble bees, are the only efficient agents.

The inexperienced clover seed grower is likely to believe that the uncertainty of securing a good setting of seed justifies his usual course of cutting the hay and perhaps pasturing off or plowing under the aftermath, but since he is farming for profit, any knowledge which enables him to know with certainty that he has a money crop on hand, lessens his chances of losses.

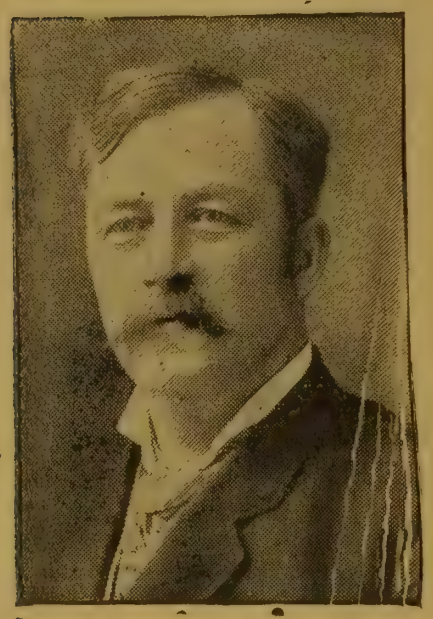
The seed formation of red clover in the early stages of growth, can be readily observed by cutting the flower heads lengthwise with a sharp knife. A little later seed-bearing heads may be detected by a certain plumpness when squeezed between the thumb and fore-finger; still later these heads will turn brown. This color, allied to the hardness of the heads, when observed in any large proportion of flower heads, is indicative of a profitable seed crop, whether occuring in first or second crop.

Given a good stand of first crop clover, common red, mammoth red or alsike, there are several features which when considered, will help to determine whether the crop would be more profitable as cut for hay or whether to allow it to mature a seed crop.

The value of the threshed hay is considerably lessened indeed, if it has been left in the rain for a long time, the straw has little value for feeding purposes. It is valuable for bedding, as it is a good absorbent of liquids. There is also the cost of threshing and cleaning operations. On the other hand, should the seed crop be harvested and stored without much weathering, the straw, especially that of alsike clover, has considerable feeding value and may be fed to cattle and sheep.

(Continued on page 150)

Increased Food Production Campaign for N. B.



HON. J. F. TWEEDDALE
New Brunswick Ministry for Agriculture.

Realizing the fact that the British Empire and her allies are now facing the greatest crisis since Adam left Eden and that the chief essential, necessary to overcome this crisis, is an abundant food supply, so that our troops and people generally may be sustained, till the German hosts are conquered, Hon. W. E. Foster, the Premier and Hon. J. F. Tweeddale, New Brunswick's Minister for Agriculture, invited prominent agriculturists and others, directly or indirectly interested in food production, to a conferenc at Fredericton on May 4th, to discuss and formulate plans how New Brunswickers may best do their bit behind the front in efforts for increased production of food supplies.

Despite the short notice, the response to the invitation was most encouraging and delegates from all ranks of productive industries were present from every section of the province.

The meetings were held in the annex of the Provincial Normal School.

The premier called the meeting to order and in the course of his address intimated his desire that the farmers, who are the real producers, express their views on the possibility for increased production and the essential aids required to accomplish maximum results. He read a telegram from ex-Premier Murray expressing his unability to be present and pledging his co-operation in every possible way to promote the success of the increased production movement.

Lieutenant-Governor Wood expressed his hearty support and said that while we in New Brunswik have every faith in the power of the Allies, we must not be over-confident and rest on our oars. It is absolutely necessary that we provide food in abundance and organize our efforts under expert direction.

Hon. J. F. Tweeddale pointed out that, owing to the seeding season being now here, immediate action on the part of every interested individual and organization must unite their efforts, backed up by the government. He quoted some of the world's greatest authorities on the food supply question and the danger of a world-wide famine. He asked every one present to use their very best influence to help avert such a disaster.

Mr. W. B. Snowball then took the floor and outlined what Sussex Farmers' Club proposes to do to cultivate vacant land, with the aid of school pupils.

L. P. D. Tilley, Director of the National Service Board for New Brunswick was present, and gave the assurance that the National Service movement would render the movement under discussion every possible assistance.

Dr. W. S. Carter, Chief Superintendent of Education, suggested that the schools should co-operate, and any pupils in good standing on May 1, should be allowed their standing for the year, if they went to work on Farms.

There should be local organizations to facilitate this. The school inspectors should be released to devote their time to this work, and household science teachers should be enabled to give instruction in canning and home economy.

Prof. M. Cumming of Truro, pointed to the serious shortage in beef, mutton and pork products as something that must be coped with from the Dominion and continental standpoint. He disapproved of the indiscriminate slaughter of young calves and suggested that the consuming public endorse the slogan "Eat no Veal", while the meat situation remained at such a low ebb. It was too late to acquire wheat and fertilizers at this late season. Oats, potatoes and beans should be grown in abundance. Every farmer and town gardner should try to double his crop. School boy labor is being utilized in Nova Scotia. He strongly espoused the idea of a National Service Sunday, for production has been raised to the plane of a moral duty.

He had tried to get supply of fertilizers from England, but the Imperial Government replied that they needed it all at home.

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Hon. C. W. Robinson moved that a nominating ommittee of five be appointed to name a provincial committee to co-operate with the agricultural department and assist by every means possible the work of increased production. This was adopted, and M. A. MacLeod, T. H. Estabrooks, H. V. Dickson, Rev. L. Guertin and F. W. Thompson were appointed.

F. E. Sharpe moved that in order to further stimulate production of high grade seed oats, wheat, potatoes and possibly other crops for the seed needs of next year, there be a large prize list for field crops, and also competition for increased farm production including live stock, with substantial money prizes; and that national service diplomas be awarded. This was adopted.

W. Frank Hatheway moved that school pupils be mobilized, inspectors released to co-operate in this work, and household science teachers be engaged during vacation to give instruetions in canning and economical use of food. This was adopted. Mr. Hatheway thought it would help if farmers could be guaranteed a certain price for their products next fall. This would be a great incentive.

Farm Laber Scarcity

G. E. Porter moved that it was advisable to organize labor bureaus in the province, to secure all available help on the farm. Mr. Porter said the farmers were limited because they could not get labor. The prices this year and next would induce the farmer to produce to the limit, but he needed labor. The resolution was adopted.

Dr. Borden, of Sackville, congratulated the premier and government on the splendid gathering. There had been much talking but here was something definite that would briny results. He moved that May 13 be declared national service Sunday and a joint message on food production signed by the minister of agriculture and director of national service be sent to every clergyman in the province, with a request that he read it and deliver a sermon or address on the subject. This was adopted.

C. M. Leger said he anticipated great results from this conference. Not only farmers but the people of cities, towns and villages must do their part. He moved that owners of vacant lots in these centers and the commercial and industrial workers be earnestly requested to co-operate in the cultivation of the greatest amount possible. This was adopted.

Prof. J. W. Robertson

Prof. James W. Robertson delivered a most impressive address, dealing with the great crisis which confronts the world and the absolute necessity of increasing food production. We must produce whether at a profit or at a loss, in order to save humanity. He dwelt upon what the women of France are doing and made a most stirring appeal to the people of New Brunswick to do their full duty.

He told of the Frenchman who declared that if the French accepted peace on Germany's terms, their dead would rise up to spit in their faces

New Brunswick's New Deputy Minister of Agriculture

Following the defeat of the Murray Government in New Brunswick, Hon. Walter E. Foster, the new premier, put Hon. J. F. Tweeddale of Victoria County in charge of the Department of Agriculture. On assuming the reins of office of this important position, Mr. Tweeddale realized the necessity for a re-organization of the staff with a view to making the department efficient and helpful to the furtherance of the agricultural interests of the Province.

His first aim was to get a strong, practical leader of men as ris deputy. Unqualified party politicans and aspirants for the position were disregarded. Mr. Tweeddale looked for a man who had a reputation for efficiency.

The Maritime Farmer is delighted with the stand Mr. Tweeddale has taken and wish to congratulate him on his success in procuring as ris deputy, Mr. W. R. Reek, B. S. A., an Ontario boy who has a reputation for making good, to back up both a practical and theoretical knowledge of the work which he will have the honor and privilege to guide in New Brunswick.

W. R. REEK, B. S. A.
Secretary of Agriculture for New

Mr. Reek was born in 1882 on a large stock farm in Ontario, upon which he remained until the fall of 1906, when he entered the Ontario Agricultural College, Guelph. He graduated from the O. A. C. in 1910. During the summers of 1908 and 1909, Mr. Reek did efficient work in the Under-Drainage Department under Prof. W. H. Day. In the summer and fall of 1910 he was in charge of the Drainage Campaign for Ontario. In 1909 he was a member of the stock judging team representing the O. A. C. at the International at Chicago.

In 1911 he was appointed private secretary to the late Dr. C. C. James, then acting as Minister of Agriculture for Ontario. As secretary to Dr. James, Mr. Reek gained an insight, under the tutorship of one of Canada's most practical and learned agriculturists, into how the Department of Agriculture of a province may be efficiently conducted. When Dr. James received his commission at Ottawa in 1912, Mr. Reek was transferred to the Ontario Government's Office in London, England. He was recalled in October, 1913, to take the position of Associate Prof. of Animal Husbandry in the O. A. C., where he remained until 1915, when he was appointed to look after the Federal Grant appropriations upon Prince Edward Island. He resigned his position in Prince Edward Island on March 1st of this year to become assistant to Dr. G. C. Cuelman, Commissioner of Agriculture for Ontario. We believe Hon. Mr. Tweeddale will give Mr. Reek a free hand to exercise the best of his abilities to make his work in the province a success. We know we voice the sentiments of our readers when we say that we heartily welcome Mr. Reek to New Brunswick, and that we all

CO-OPERATIVE PURCHASING

Did you read the article on co-operative purchasing of cotton seed meal in the last issue of The Maritime Farmer? If not, and you chance to be an interested dairyman, read it today. Excellent reports are reaching us daily about the movement. The country is ripe for such a price smashing plan. It will mean a saving of thousands of dollars to Maritime Farmer readers who participate and that without any extra effort on their part. Talk the matter over with your neighbors and let us know your requirements. We will send one of our representatives to talk it over with you.

The Maritime Farmer,
Sussex, N. B.

the speaker, "because we at home fail in our duty.

The United States has two-thirds of a wheat crop, the Argentine has prohibited export and India and Australia are far away from England. Canada should strain every nerve to increase the supply. Twenty cents worth of beans has as much nourishment as $1.25 worth of beef steak, or $1.40 worth of eggs at present prices, therefore beans should be extensively grown this season.

High prices will prevail for a number of years, and there will be ample market for all crops produced at remunerative prices.

J. E. Porter referred to what the women of New Brunswick have done and are doing and suggested that they be rewarded with the franchise.

Hon. Mr. Tweeddale outlined what the government had done in the matter of getting seed oats and barley and said they hoped to have some wheat. But they were trying to do now what should have been done in January or February. The department would assist in every way possible.

Deputy Minister Reek of the agricultural department, said that in addition to inreasing production there should be an elimination of waste in the cities and towns. Food reserves in the world have been used up and farmers need not worry about returns.

Provincial Committee

The nominating committee submitted the following provincial committee: Albert: T. A. Goggin; Elgin, C. J. Osman, Hillsboro. Carleton; George Upham, Woodstock; Harry Smith, Florenceville. Charlotte: J. M. Scovil, St. Stephen; Howard Grimmer, St. Andrews. Kent: J. D. Irving and Hon. Dr. Landry, Buctouche. Kings: J. T. Prescott and J. D. McKenna, Sussex. Madawaska: Dennis Daigle, Baker Lake; B. R. Violette, St. Leonards. Northumberland: George E. Fisher and A. G. Dickson, Chatham. Gloucester: John J. Miller, Bathurst; Joseph Theriault, Pacquetville. Queens: T. Sherman Peters, Gagetown; Isaac Baird, Chipman. Restigouche: Edwin LeVasseur, Anderson Settlement; R. L. Hicks, Dalhousie Junction. Sunbury: H. H. Smith, Hoyt Station; Charles Gilmour, Oromocto. St. John: E. A. Schofield, R. R. Patchell. Westmorland: O. M. Melansor, Shediac; J. W. Carter, Salisbury. York, James S. Neill, Fredericton; William Moore, Scotch Lake. Victoria: Donald Fraser, Plaster Rock; Abraham Kupey, Andover.

Miss Hazel Winter spoke for the women's institute. F. A. Dykeman urged that a slogan be adopted. Rev. J. Guertin, A. G. Dickson, C. Alward, James Gilchrist, Mrs. Lawlor and Mrs. Gray made practical suggestions, the ladies dealing with the high cost of living, and offering some kindly counsel to the farmer, from the housewives point of view.

At the evening session, Dr. Jas. Robertson paid a particular compliment to the "silent eloquence" of the British navy, of which he had been a personal witness. He also gave a most graphic description of conditions in France, which he visited last Autumn as an official representative of Canada. The speaker particularly emphasized the sacrifices which the French were making for freedom and right. He told how he had seen the old men, women and children at work in the fields, doing their bit to keep up the food supply, an eloquent example for our Canadian men and women to follow.

His Worship Mayor Hayes of St. John expressed his hearty support of the movement.

Dr. Kierstead thought the government could well follow the lead of the Canadian West and arrange short term loans for the farmers on easier terms than they can now secure.

Br. Buckley of the Y. M. C. A., promised the support and co-operation of the Association, in the attempt to have boys employed on the farms, and instanced what has been done in Nova Scotia.

Mrs. Lawlor asked when will the Ottawa government set in motion the machinery against combines. She would like to see local combines investigated.

C. F. Alward said farmers too often sowed four to five bushels of oats to the acre, when two bushels to two and one-half was enough. He urged providing lime to help the fertilizing of many farms.

James Gilchrist said the movement to get school boys on the farms would help solve the labor problem, and that the government should do something towards solving the capital side of the question.

Rev. Dr. Guertin said that through circumstances, he was boss of a farm when eleven years old, and that boys could do most valuable work. We must plan not for this year alone, but for next year. With the bravest men and best equipment we cannot win the war unless the men are fed.

He advised his hearers to invoke the blessing of God on any efforts they may make to increase production, for it is God that giveth the increase. We must be his partners.

The greatest enthusiasm was in evidence throughout the sessions, and the various delegates returned to their homes not only impressed with the great need for every effort to increase, but to put in practice as best they can, every plan that they think will help keep the Empire's food supply in a stage of efficiency and sufficiency.

GROW THINGS

Professor Cumming's Message to the farmers of Nova Scotia through the New Year number of The Morning Chronicle may well be repeated at this season. He sounded the keynote of Patriotic and Profitable Service on the farms of Nova Scotia as follows:—

"It made no difference what was grown on the farm in 1916, there was a demand for it and top prices at that. Hay may be quoted as an exception, but it really is not, for the bulk of the hay should be manufactured on the farms into beef and mutton and milk, for which products there is an unlimited sale. The pity is that we did not grow enough crops and that we have not enough to sell right now. Potatoes at over $1.00 per bushel, oats climbing towards the dollar mark and other products equally high have swollen the bank account of our good 1916 farmers. Butter, at over 40c, beef at 15c, eggs at 50c, have also been great money makers when the farmer has been able to feed mainly fodders grown on his farm. But when he has had to pay nearly $40.00 per ton for bran and proportionately high prices for other mill feeds, the possible profits from the live stock branch of his farm have been greatly reduced—not so has it been with the farmer who "grew things."

Certainly "Growing Things" Does Not Impoverish the Land.

There used to be an old idea prevalent in the country that big crops robbed the land. And this idea was correct when big crops of hay and oats, etc., were sold off the farm and no returns made to the fields that produced the crops. But when live stock of all kinds are fed these crops, the animals retain in their systems only from five to twenty-five per cent. of the fertilizing ingredients contained in the fodders, the balance accumulating in the barn yard manure. And when this manure is properly conserved and put back on the farm there is little waste of the fertilizing materials at first removed from the soil. Such wastage as occurs is largely made up by the enriching qualities of clover and other leguminous crops which, as they grow, abstract fertility from the air, and by means of their deep roots, bring up plant food from the lower [illegible] crops, like potatoes, garden truck, and even sometimes hay and grain, must be sold, but with most of these crops the drainage falls upon labor rather than a large amount of soil fertility, and the small deficit in fertility that does occur is fully offset by the judicious use of commercial fertilizers which will more than pay the farmer [illegible] ing of the crop several times during so it transpires, as was often urged by the late Jas. J. Hill, that the growing of plants is the one means of exploiting nature without impoverishing her, in which respect agriculture is contrasted with mining and similar processes of extracting wealth from nature which becomes so much poorer as each ton of coal or other substance [illegible] ble? Is it liable to spread to other

The Growing of Plants is the one means of exploiting Nature without Impoverishing Her.

Growing Things Makes the Farmer and the Country Richer and Yet Conserves the Future.

The Lesson of 1916 to the Fruit Growers Seems to be the Need of Faith That will Compel Him to Grow Things.

Every Provident Nation Encourages its people to Grow Things.

It Means Sacrifice, but War Times are Times of Sacrifice, and the Farming Community Will Not Take Second Place to Any in Its Willingness to Sacrifice.

GROW THINGS IN 1917.

RETURNS FROM FARMS OF NOVA SCOTIA 1916.

CROP	TOTAL YIELDS (bushels)	VALUE
Oats	4,794,430	$3,595,822
Wheat	426,660	853,320
Barley	167,384	217,600
Buckwheat	243,075	243,075
Peas	300,621	11,863
Beans	22,365	134,190
Rye	21,128	26,400
Mixed Grains	146,619	183,273
Corn for husking	6,708	11.608
Potatoes	7,139,160	6,425,244
Turnips	6,866,200	825,916
Mangels	590,320	70,839
	Tons	
Hay	1,030,620	10,306,200
Corn and other forage crops	27,384	82,152
Garden truck and small fruits		1,400,000
	Barrels	
Apples	600,000	1,500,000
TOTAL		$25,886,962

The striking feature of the figures for 1916 compared with those of 1915 is the increased value of the cereal and potato crops and the decreased value (despite the big yield) of the hay crop. The one has just about offset the other. In addition to the foregoing, should be included at least 50 p. c. of the returns from such live stock products as milk, butter, wool, lambs, etc., a large proportion of which are produced on pastures of which no reckoning has been made in the table. Moreover, there should be included with this an estimate of the profits made from feeding purchased and home grown feeds to live stock. The additional income estimated on these scores is $8,000,000. Thus the grand total value of the products of Nova Scotia farms for the year 1916 is **$33,886,962.**

view may be considered the result of the abstract reasoning of a scientist, it is only necessary to corroborate it by referring to many farms in Nova Scotia which, though producing bigger crops each succeeding year, are all the while becoming richer. Growing things makes the farmer and the country richer and yet conserves the future. Hence every provident nation encourages its people to "grow things."

The Growth of 1916—One of The Farmer's Good Years.

"In 1916, the farmers of Nova Scotia grew more hay than was ever grown in the history of the Province. Almost equally heavy was the product of the potato and grain fields and of the gardens, too. Late pastures and the late harvested turnips and similar crops fell somewhat below the standard, but none the less were nearly up to average. Fruit trees, unfortunately, did not yield so bounteously, their total product being about equal to that of 1915, and but little more than one-third the product of the banner year, 1911. There has been a growth, slight it is true, in the numbers of live stock of all kinds, but especially dairy cows. Moreover, the better bred and better fed cow has produced from five to ten per cent. more dairy products than ever before. Summing everything up, things grew and produced well in the year gone by, and the season has passed into history as one of the farmer's good years.

But what of 1917? Then will it be more important than ever that farmers "grow things." Everybody, whether living in town or country, is concerned in this. To the Province as a whole it will mean the addition of real wealth. To the grower, the farmer, it will mean personal gain in the making of which he will be rendering the most patriotic service he can render his King and country. But how shall he do it, and what shall he grow?

Sacrifice to "Grow Things" and Help Win the War.

"To start with, there must and there will be left on the farms, no matter how strenuous the war, a big force of men and women, too, whose

(Continued on page 450)

(6) **By Cultivation**—In some plants,

THE MARITIME FARMER.

And Co-operative Dairyman
Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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MAY 8, 1917.

DATES OF ISSUE.

May 8-29
June 12-26

PLANTING THE FARM HOME GROUNDS

There are two equipments necessary for every farm home—an equipment for work and an equipment for living. Too often the equipment for work receives much more attention than the equipment for living. We are influenced by our surroundings more than we know or are willing to admit. Children especially are sensitive to these things. Many boys have been driven from the country to the city by the unattractiveness of their homes rather than by the hard work of the farm. The unattractiveness of home surroundings and the lack of common comforts have made many a farmer's boy dislike the farm. Every farmer owes to his family and to himself the best that he can do in the way of equipping the farm home and making the home grounds beautiful in order that the fullest and richest life possible may be enjoyed by all.

The cost of improvement and planting will be one of the first considerations. The first item of improvement, neatness, need cost nothing more than the effort necessary to put things in their right places. Then, if planting is to be done, there should be a plan. This will cost only a little time and study in deciding upon how and where the planting is to be done. Very often the plants and trees required can be mostly, or This is especially true of trees. Many home grounds are planted entirely with native trees and shrubs. These will nearlyalways give better satisfaction than the varieties offered by tree agents. Many of the wild flowers, if given care in the flower border of the home grounds, will thrive and bloom so well that they will hardly be recognized as wild flowers.

Home improvement, therefore, need not take much money, but it does take interest. If the farmer is interested in having a well kept and attractive home and grounds, he will find the little time necessary to accomplish this end.

MAKE THE BOY A PARTNER

Six per cent of the 400 farmers, who were visited in connection with an agricultural survey by the Commission of Conservation in one Ontario county in 1916, were paying members of the family who remained at home, to work on the farm. No farmer was found who had taken the members of the family into action and actual partnership in the farm enterprise. These conditions also obtain in the Maritime Provinces.

It is essential that many of our best boys remain on the farm and help in developing rural life into what it could and should be. Some of our farm boys may be better suited for occupations other than farming, but those who are suited for farming and wish to farm, should be given every encouragement to do so.

Boys of the farm are too often allowed to drift along with very little attention bein paid to them. The boy will be more likely to become a willing worker if his interest is aroused in the business side of his work and he will gain ability to save if he is taught to spend thoughtfully and wisely. These two factors, willingness to work and ability to save, are fundamental for future success. Permit the boy to participate in the practical business transactions of the farm as the conditions allow. Let him do some of the buying and selling. When he has decided that he will be a farmer, the father may be gradually relieved from some of his responsibilities through a partnership management.

CROP ROTATIONS

Crop failures are quite common with some farmers, while their neighbors on adjoining farms have bumper yields every year.

There are reasons for the success of these energetic business-like, progressive farmers. These were fortified against adverse conditions by the employing of reliable methods during the past number of years. Their land is underdrained, crop rotation and suitable cultural methods are employed, stock raising is a main issue, manure is conserved and applied to best advantage, and leguminous crops are grown.

Crop rotations, coupled with judicious cultural methods, are most important.

The following features of crop rotation work would seem to be among the most important factors making toward profitable results:—

(1) Rotations always comprise hoed, cerial and forage crops.

(2) Grain fields are always seeded down with clover, even though it be used only as a fertilizer.

(3) Grass and clover seedings are heavy. Increased crops of hay, and rare failures of a catch have justified the practice.

(4) Hoed crops form a large proportion of every rotation. An attempt to farm a small area without a hoed crop was not successful. Weeds could not readily be kept in check.

(5) No field is left in hay for more than two successive years. Records show that the second first, and that succeeding crops are very likely to be grown at a loss.

(6) Barnyard manure is applied frequently in comparatively small quantities, rather than at long intervals in large quantities.

CLEAN-UP

Throughout Canada the disappearance of the snow reveals accumulations of ashes, garbage and other refuse, which, owing to the covering mantle, are not visible during the winter. For this reason it is necessary that an outdoor clean-up be undertaken, as well as an indoor. To accomplish this wory systematically, the "clean-up week" has been inaugurated, and has proved successful in inducing many municipalities to adopt efficient means to the end.

Preparations should be undertaken at once for this annual event. The people must be educated to a thorough overhauling of their premises, both inside and out. Much useless material, probably the accumulation of years, will be found serving only to harbor dust. This should be either disposed of to those who can use it or destroyed. Fires of apparently unknown origin can frequently be traced to these accumulations in attics or other out-of-the-way storage spaces. Clean them out, and, instead of wondering what to do with them, there will be a feeling of relief that they are gone.

Clean-up the area around the home. Dispose of the ashes, and you will be surprised at the extent of garden you will be able to cultivate from the apparently useless surroundings of the home.

As an encouragement to the people the municipal authorities should do their part. There should be an early start made on street cleaning, and the opening up of outing speces, and provision should be made for the removal of the refuse gathered by householders.

Canada's season for outdoor life is not long, and it should not be shortened by delay in cleaning up and making presentable our gardens, streets and open spaces.

In the Maritime Farmer's home town, every Friday during the month of May is a town clean-up day. Public minded citizens furnish teams and a general renovation is performed.

* * *

Viscount Milner says:—"Of all forms of productive capacity there is none more vital, indispensable and steadying than the application of human industry to the cultivation of the soil. And if there is one point at which order seems beginning to emerge from the present confusion of our political and social aims, it is precisely with regard to this fundamental necessity of making a better use of the greatest of all natural resources."

* * *

The Maritime Province farmers are determined that they will do anything to beat the Germans and end the war.

* * *

Will you encourage turning waste garden space into food this summer?

* * *

Waste ground and spare time may be jointly used for the increased production of food.

* * *

The planting of the backyard garden is a "home defence" against the high cost of living.

* * *

Be careful of your own eyes, your own limbs and your own life, as well as for those of others.

* * *

The use of the auto by farmers has completely changed the rural attitude toward the good roads

ERADICATION OF WEEDS.—GENERAL REMARKS

Different Classes of Weeds.

According to their manner of growth, weeds may be grouped under three heads.

1. **Annual Weeds.**—These complete their whole life-history in one year or less. The seed germinates sometimes in the fall, but more often in spring, the plant grows rapidly, produces flowers, ripens and scatters its seeds, and then dies before winter. Wild Mustard and Wild Oats are annuals.

2. **Biennial Weeds.**—These during the first season of growth produce a tuft of leaves close to the surface of the ground; during the second season a tall stem is produced which bears flowers and ripens seeds, and then the whole plant dies. The life-history is thus comprised inside two years. Biennial Wormwood and Burdock are examples.

3. **Perennial Weeds.**—These produce flowers and seeds, but after ripening the seeds only those parts of the plant above ground die down, while the underground parts live on for many years. Three types of perennial weeds may be distinguished.

(a) **Spot-bound.**—Weeds of this class do not spread readily in the ground beyond the spot where they first take root. Their seeds may, of course, be distributed over a wide area. Examples are Dock and Dandelion.

(b) **Creeping on the surface.**—The parent plant sends out runners in all directions along the surface of the ground, which eventually take root. Examples are Silverweed and Orange Hawkweed.

(c) **Creeping below the surface.**—The parent plant sends out shoots or, in some cases, roots, which travel horizontally at a considerable depth below the surface of the ground. New shoots grow up from these above the surface of the soil and eventually become independent plants. Likewise, a small piece of the underground shoot an inch or two long is capable of producing a new plant. Field Bindweed and Canada Thistle are examples.

How Weeds Spread.

Weeds may gain entrance to the farm, or, if already there, may be dispersed over a wider area in one of the following ways.

(1) **As Impurities in the Seed Sown.**—Most samples of agricultural seeds contain weed seeds in greater or less amount, which are sown with the useful seeds and thus the weeds may, quite unknown to the farmer, gain an entrance on to his land. The seed sown should be absolutely free from weeds of all kinds—a condition of things which is seldom realized.

(2) **By the Agency of Threshing Machines.**—The threshing machine should be thoroughly cleaned before it is allowed to begin operations on the farm.

(3) **In Stable Manure, and Feeding Stuffs.**—Hay and feeding stuffs often contain weed seeds, some of which are liable to find their way into the manure heap and eventually on to the land.

(4) **By the Action of Wind.**—Many seeds, such as those of Dandelion, and Thistle, are furnished with a tuft of hairs which enables them to float in the air for long distances. In other cases the seeds or even the whole plant may be blown over the frozen surface or the snow.

(5) **By the Agency of Animals.**—The seeds or adjacent parts of some plants, such as Blue Bur and Burdock, are provided with hooks by means of which they become attached to the wool of sheep or the clothing of workers on the farm and in this way be carried into fields where formerly they did not exist.

(6) **By Cultivation**—In some plants, especially those with creeping, underground stems, the broken pieces may be carried all over the field by farm implements and thus dispersed over a much wider area than the parent plants originally occupied.

Methods of Destroying Weeds.

(1) **By destroying the Weed Seeds Already in the Soil.**—Where the ground has been badly polluted with weed seeds through neglect in former years, the surface should be disturbed to a depth of a few inches and the seeds encouraged to germinate either after harvest or in spring. If the land is then plowed deeply the seedling will be buried and the fresh supply of weed seeds brought up should be encouraged to grow in the same manner and should then be destroyed. A hoed crop should be planted and the spaces between the rows ought to be cultivated regularly throughout the season.

When the ground has been badly polluted with weed seeds, some of them may lie dormant for several years and germinate when the soil is again disturbed.

(2) **By Preventing them from Ripening Seeds.**—The formation of seeds can be prevented in various ways, such as mowing several times during the season, or cutting the roots with a hoe or spud, or frequent cultivation of the land by horse labour, or by pasturing the ground closely with sheep. Annuals and biennials will eventually die out if the production of seeds is prevented.

(3) **By Frequent Cultivation and Destruction of the Green Parts as often as they Appear.**—Prevention of seed-formation will serve somewhat to check the spread of perennial plants, but as they can live for many years and even continue to occupy new ground by the growth of underground shoots, etc., some more thorough methods are required to get rid of them. The implements employed for this purpose should be such as will loosen the soil to such an extent that the weeds can be readily pulled out and collected into heaps, after which they should be burnt when dry. It is very important that the underground parts of such weeds as Field Bindweed should not be broken into small pieces difficult to collect and liable to be scattered over a wider area. But, however carefully the work of collecting and burning may be done, some of the weeds are sure to be left in the soil and, if undisturbed, will grow again. Consequently ground that is badly infested with such weeds will require to have the surface disturbed by frequent cultivation. This can only be done if the land is left without a crop, (summer-fallowed) or bears a crop of such a nature that it can be planted in rows with sufficient space between the rows to admit of ready cultivation without injury to the plants. The cultivation should be done sufficiently often to destroy all green parts as quickly as they appear and the implement used should be of such a nature that they will cut all underground stems and roots in the area covered by them without letting any escape. One of the weed-knife type of implements should be used. THE UNDERGROUND PARTS OF A PLANT ARE NOURISHED BY THE GREEN PARTS ABOVE GROUND AND IF THE GREEN STEMS AND LEAVES ARE DESTROYED AS QUICKLY AS THEY APPEAR THE PARTS BELOW THE SURFACE WILL BE STARVED OUT AND THE WHOLE PLANT WILL EVENTUALLY DIE. This is the only way to eradicate finally such weeds as Canada Thistle and Field Bindweed.

(4) **By the Use of Smother Crops.**—A vigorous growth of some other crop such as alfalfa tends to crowd out some kinds of weeds and the cutting of the crop several times during the season prevents the weed from ripening its seeds.

(5) **By Excluding Sunlight.**—This can be done by the use of building paper, or a thick layer of straw or other suitable material and can only be practised on small areas that are entirely overrun by some very trouble some weed.

(6)—**By Spraying with Chemical Solutions.**—The substances most commonly used for killing weeds are Iron sulphate (copperas or green vitriol), Copper sulphate (blue vitriol), Common Salt, and Sodium arsenite. Iron sulphate can be used to destroy Wild Mustard when growing in a grain crop without doing any material damage to the crop. For this purpose a 20 per cent solution is employed and 100 pounds of the sulphate dissolved in 50 gallons of water will spray one acre. Copper sulphate can be used for the same purpose, a 2 per cent solution being employed (10 lbs. in 50 gallons of water per acre). Both these sulphates are poisonous. Sodium arsenite if applied at the rate of 2 pounds to 50 gallons of water will blacken the leaves of Canada Thistle. It is very poisonous and cannot safely be applied to the thistles when growing among hay or other crop as it will damage the useful plants as well.

Common Salt is a useful weed killer to employ in the case of weeds growing on paths or roadsides or waste ground. It should be applied in dry weather at the rate of 125 lbs. in 50 gallons of water per acre. Strong solutions of the other foregoing chemicals may be used for the same purpose.

General Conclusions

The control of weeds on the farm requires in a marked degree the two virtures of thoroughness and perseverance. If a farmer goes about it in a half-hearted way, he will never accomplish their eradication. Constant watchfulness is necessary if progress is to be made. If bare fallow is resorted to, it should be possible to get rid of even the worst weeds in a single year. But the practice of bare fallow is not a paying game. It is in most cases better to graze the land or take off a crop of hay or grain early in the season and then leave the land bare for the rest of the year. Shallow plowing should be followed by continuous cultivation throughout the rest of the season, and a hoed crop planted the following year.

It is safe to say that weeds can only be held in check where a suitable rotation of crops is followed. Where the same land is sown with wheat year after year, or where the land is pastured indefinitely, the weed problem is liable to become worse every year. In the former case bare fallow every few years will be necessary and it is very doubtful whether the return from the land will be equal to that where rotation of crops is followed.—By John Adams, M.A., Assistant Dominion Botanist.

SMUT

Editor The Maritime Farmer:

Enclosed find $1.00, my subscription to the Maritime Farmer. Please reply through your columns to the following questions:—

In the spring of 1916, I purchased a quantity of seed oats. At harvesting time I noticed a great many stalks of the straw did not carry but a very small number of grains. There were, however, a large number of dark brown or black grain shaped sacks or pods, or masses of a powdery substance that seemed to have taken the place where grain ought to be. This trouble was quite prevalent all over the field in which the purchased seed was used. Fields sown with seed of my own growing was entirely free from this trouble. What is the trouble?. Is it liable to spread to other fields? Is there anything I can do to prevent it?—Subscriber.

Ans.—Your grain is infested with smut. Considering the fact that your fields sown with home grown seed were free from smut, we would judge that when you purchased the seed grain in question, you received with your purchase something besides oats. You evidently bought grain that was infested with smut. The trouble is liable to find its way all through your grain and thus every field you sow in future will be more or less affected and the trouble will very materially increase unless you do something to check it. You can check this trouble and if you are persistent in your work, you can eventually eradicate it by taking a few simple precautions each year.

Every spring we describe the treatment of seed grain to destroy smut in the columns of the Maritime Farmer. Indeed we dealt with this matter at some length in our last issue. However, this is a story that bears repeating at this season of the year, and particularly so this year when every effort must be exerted to produce bumper corps. We trust that the treatment of grain for smut will be generally practiced this year. The method is not expensive and the loss from smut is tremendous. It is a loss that all farmers should protect themselves against.

Treatment of Seed Grain to Destroy Smut

Farmers in general little realize the immense loss that is sustained by the country as well as the individual through the ravages of smut and rusts in grain crops. Many tens of thousands of bushels of oats are lost annually, due to the ravages of smut. This waste can be largely eliminated by proper treatment of the seed. It is claimed by statisticians that $12,000,000 is lost annually by the grain growers of Manitoba, Saskatchewan and Alberta through this channel, and while in the eastern provinces the loss is not so great, it is nevertheless much greater than is generally supposed, although individual farmers here and there are protecting themselves against this great loss, as a rule there is comparatively little effort put forth to overcome the difficulty. It seems almost incredible that intelligent men will allow this leakage in the farm revenue to go on from year to year, when at a small cost of both material and labor they could effectually guard against the intrusion of these parasites.

The fungus spores of the stinking smut of wheat and of the loose smut of oats may be killed by treating the seed grain in the following way: Take a pound of formalin (formaldehyde, 40 per cent.), dissolve it in 50 gallons of water. spread the grain out on the clean floor, and wet it thoroughly with the solution, using about three quarts to a gallon for each bushel of the grain. The work can be done easily and thoroughly if one person shovels the wheat over while another applies the solution with the sprinkling can. Then stack the grain up in a pile or in a long rick, and cover over with carpets and blankets to retain the fumes from the formalin. and allow to remain for two or three hours. Then spread the grain out to dry before seeding. It should not be returned to the same bags unless they have been treated with the solution. as they may contain spores that will again infect the grain. The drill box also should be sprayed with the solution.

Another plan commonly followed by some farmers. is as follows:—

Secure 1 pint of formalin for every 20 to 30 bushels of oats required for seed purposes. Dilute with 42 gals. of water and use a barrel in which the bags of grain may be immersed for 20 minutes. Spread out to dry and

(Continued on page 454)

Varieties of Potatoes

By W. W. Hubbard

Purity of variety and trueness to type are two essential characters of marketable potatoes, particularly those for the shipping trade. In spite of the various advantages derived from growing one or two pure varieties, it is surprising how few farmers keep their varieties free from mixtures, or who recognize and endeavour to keep them true to type.

If the Canadian potato grower is to receive the highest returns from his crop, it is necessary to grow the variety or type which the market demands. With few exceptions, the market demands only two varieties.

(1) An early white variety, usually of the Cobbler type, such as Irish Cobbler and Early Eureka. In some cases, the Early Ohio, a pink potato, is asked for.

(2) A late white variety of the Green Mountain type, such as Green Mountain or Delaware. The Rural New Yorker, while not belonging to the Green Mountain group, is quite a favourite on some markets.

It cannot be too strongly recommended that the farmers in any community determine the two varieties which are in most demand and then to raise only these two. If more than one or two varietes are raised, attention is divided, which results sooner or later in a mixed crop.

One of the greatest hindrances to market improvement in our potatoes is the fact that too many varieties are raised. If success is to be attained, we must concentrate on one or two varieties for each locality. By doing this, we eliminate to a large extent, the possibility of mixed varieties.

In deciding on the variety which should be grown in any community, attention should be given to the following qualifications:—quality, yield, market demand and earliness. These are all essential and may be obtained by the careful grower.

Quality:—The general market demands a white mealy potato, of good appearance and flavor, uniform in size and shape and easily cooked.

Yield:—The yielding qualities of any variety varies with the strain. There is no use in raising a potato of good quality unless it gives a profitable yield under favorable conditions, nor is there much satisfaction in securing a large yield if the quality is lacking.

Market:—The average grower who is supplying a particular market, must cater to its demands. If he has no special market, and this is usually the case, then he should select a well known standard variety, avoiding novelties or little known varieties.

Earliness:—In every community there is a limited demand for early potatoes for consumption, until the late crop has been harvested. This is usually a profitable trade. However, the late varieties are usually the largest yielders, and for this reason the average grower should raise only sufficient of the early variety to supply the early market, or for the seed stock trade, the general crop consisting of the late or larger yielding variety.

The varieties which are recognized as standard and which are in more or less in constant demand, are:—

Early Varieties:—Irish Cobbler, Extra Early Eureka, Early Ohio and Early Triumph.

Late Varieties:—Green Mountain or Delaware, Gold Coin, Rural New Yorker, and Empire State, to a limited extent.

The varieties which should receive first consideration in view of the market demand, are Irish Cobbler and Green Mountain.

In order that the potato grower may keep his stock pure and true to type, it is necessary for him to recognize the various family groups, if not the varieties, to which some of our more common commercial varieties belong. This is also necessary because of the constantly increasing number of new varieties and the great number of old varieties which are being offered under the guise of new names, or as improved varieties.

It is realized that the average grower cannot hope to recognize all the varieties since there are several hundreds in existence. However, most of our varieties may be grouped under a few families having fairly definite characters, which can readily be mastered by anyone. The present article does not endeavour to draw fine distinctions, but merely to point out the desirable characters of the different groups. It is further hoped that this article will stimulate a desire to eliminate many poor varieties and to concentrate on the improvement of the best yielders which meet the demand of the market. It is further recognized that all varieties do not thrive equally well under all conditions, but sufficient information has been given to enable the grower to recognize the variety which has proven most profitable in his community.

The following descriptions of the leading family groups have been obtained from Bulletin 176 of the United States Department of Agriculture, and from personal observations on varieties grown at the Experimental Station, Fredericton, N. B.

IRISH COBBLER GROUP.

The Irish Cobbler is one of the most popular and most extensively grown of the early varieties. It is a good yielder and has good cooking qualities. There is always a demand for Cobblers for table and seed purposes and for this reason they should be planted by most growers who cater to an early market

Description:—The tubers are short, round or cubical, with blunt sunken ends. The eyes are medium in number, varying from shallow to deep, particularly those in the bud-eye cluster; the skin is smooth and creamy white; the flesh white and mealy.

The vines are medium to above medium in size, with a somewhat spreading habit of growth; the stems dark green, thick, stocky and well branched; the leaves large, flat and of a medium dark green colour; the flowers numerous and large, under normal conditions, of a light purple or rose-lilac, but under intense heat, or towards the dropping period; appear almost white; the sprouts usually of a faint reddish violet or magenta colour, or sometimes almost colourless.

This group may include several varieties, the chief of which are Extra Early Eureka, Early Eureka, Irish Cobbler.

TRIUMPH GROUP.

The Triumph, or sometimes called Bliss Triumph, Red Bliss, Stray Beauty, Red Six Weeks, etc., was at one time a very popular early variety, but is gradually being replaced by the early white varieties. At present it is little grown except for special markets such as the seed trade of Bermuda and some of the Southern States. It would be inadvisable for Canadian farmers to grow it, unless in touch with a reliable market, as the yield is usually low owing to its susceptibility to disease.

Description:—The tubers are short, round or cubical, with blunt ends similar to the Cobbler; the eyes medium in number and depth; the skin usually considered a solid red, but in some strains, (White Triumph) a creamy white. Other varieties are white, with pink eyes, or splashed with a reddish pink; the flesh a creamy white; the sprouts usually more or less deeply diffused with a reddish violet colour.

The vines are dwarfed and fairly compact; the stems short, thick and dark green in colour; the leaves large and dark green; the flowers purple or rose lilac.

The most important variety of this group is the Bliss Triumph.

EARLY OHIO GROUP.

The Early Ohio possibly comes next to the Irish Cobbler in popularity as an early variety. It is usually a lower yielder, but is superior to the Cobbler in shape and uniformity. It is smooth and has good cooking qualities.

Description:—The tubers are round-oblong, with full round seed and stem ends, tapering but very slightly towards the ends; the eyes distict but shallow, sometimes protuberant; the skin light pink, but of a deeper pink around the eyes and seed end, numerous lenticils give the skin a dotted appearance.

The vines are of medium height, the stems stout, erect and dark green; the leaves medium to large; the flowers numerous and white; the sprouts short, much enlarged at the base and varying from a carmine-violet to a violet-lilac or magenta-lilac colour.

GREEN MOUNTAIN GROUP.

This is possibly the most popular variety for the general crop. However, the Rural New Yorker is a close competitor and possibly for some sections, the Rural may be considered superior. The Green Mountain or Delaware, when true to type, is a high yielder, of good market and cooking qualities, and is recognized as a standard variety throughout America. There is always a market demand for Green Mountains.

There are several varieties in this group which are of almost equal importance, but the Green Mountain and Delaware are the most popular important and should be grown in preference to the others. The other varieties of lesser importance and demand are:—Carman No. 1, Gold Coin, Norcross and Snow.

Description:—The tubers are square-oblong and slightly flattened, ends (especially the stem) blunt, thickness and width carried uniformly from stem end to seed end, the eyes medium in number, rather shallow, with strong bud-eye cluster; the skin dull creamy white, more or less netted, frequently with russet coloured splashes towards the seed end.

The vines are large, strong and well branched, stem green, upright at first, later assuming a more spreading habit towards the end of the season; the leaves medium size, smooth and of a medium green colour, not so dark as either the Cobbler or Rural groups; the flowers white and abundant; the sprouts white, short and stubby.

RURAL GROUP.

The Rural New Yorker is a very popular variety in many parts of America, particularly in the northern sections. It is a vigorous, strong, disease resistant variety, and its oval flattened shape is considered by many to be the ideal shape. The vines and tubers are apparently somewhat resistant to Late Blight.

Where the Green Mountain is not acceptable as the standard variety, the Rural New Yorker should receive next choice.

Description:—The tubers are oval and flattened (more flattened on the under side) to broadly rounded flattened; eyes few, very shallow, eye cluster strong and frequently depressed skin creamy white and occasionnally netted.

The vines are medium large, primary stem upright, long jointed and rather sparsely covered with foliage; later branches more or less decumbent, giving the plant a straggly appearance; stems strong and more or less

NO PRICE CHANGES

We believe this is a good year for the fence user to buy fencing. From present indications wire will be so scarce as to be hard to obtain at any price. This condition may hold for several seasons. The wise man is buying liberally now. He is getting his fence at a reasonable price and also having the use of it to help him raise more and better crops while prices are high. At the same time he is performing a patriotic duty in helping to supply the nation with the food it so much needs.

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LIMITED
45 Dock Street, - ST. JOHN, N. B.

Make Money this year from your "Sugar Bush"

Hundreds of farmers to-day make more profit from their "SUGAR BUSH," with less time and labor, than they do from any other crop on the farm.

The demand for Maple Syrup and Sugar is greater than the supply, therefore, prices are good and there is always a ready market.

If you have Maple Trees on your farm which you are not tapping, you are losing good money. Maple Trees always produce a fair crop. They need no care of any kind, yet, each year produce more, and are tapped at a season when you cannot do other kind of work.

WRITE TO-DAY, and let us tell you how to make the most out of your Maple Trees with the least time and effort.

Write NOW for FREE information.

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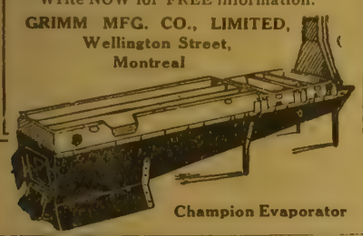

Champion Evaporator

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and also a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N S.

BEE-KEEPERS SUPPLIES

Bee Hives, Sections, Weed Process Foundation. Instruction books and everything needed by bee-keepers. Northern Grown Nursery Stock. Lowest prices, Satisfaction guaranteed. Write for price lists.

E. L. Colpitts, Petitcodiac, N.B.

1867 --OUR-- 1917 JUBILEE YEAR

We have begun our 50th year with every prospect of it being the best yet. Students can enter at any time.

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The St. John Business College — S. KERR Principal

Concrete Machinery for Farm Use

(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself

Also Crushers, Brick, Block, Tile Machines, Mixers, etc. New and Second Hand Gas Engines. Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO. Dartmouth, NS.

Advertise int he Farmer

distinctly streaked with dark purple; leaves rather small, dark green, more or less rugose or crumpled and leathery to touch. Flowers medium, abundant and of fair size; the central portion of the corolla is a deep purple which gradually shades into a lighter colour towards the edge. The colour is practically absent on the upper side of the five points of the corolla. Sprouts short, base enlarged, dull white; leaf scales and tips medium to deep purple, or pansy violet.

BURBANK GROUP.

This group while not popular and very little grown in Canada, is very attractive when properly selected. Its long round shape should make it an easy cooker and particularly suitable for baking. However, the present market demands are usually for potatoes of the Green Mountain or Rural type, and consequently it cannot be recommended.

There are two types, one with a russet skin and the other with a white, or dull white skin.

Description:—The tubers are long, oylindrical or only slightly flattened, slightly rounded or tapering at the ends; eyes numerous and well distributed, rather shallow, occasionally protuberant, skin in one section or type, white to dull white, smooth to glistening; in the other, white russetted and heavily netted.

The vines are bushy and medium large, stems light to medium green, branched and spreading; leaves abundant, medium in size and medium dark green colour; flowers white; sprouts creamy white or faintly tinged with magenta.

GROW THINGS.

(Continued from page 425)

opportunity it will be to render patriotic service by doing their level best to "grow things". Old men, who in times of peace would be enjoying their well earned rest, will contribute something to make up for the absence of young, virile men at the battle front. Boys at a younger age than usual will have their labor requisitioned, And women, too, like their sisters. of Great. Britain and other countries in the war zone, will, to a greater extent than ever, contribute directly and indirectly to the industry of the farm. It means sacrifice, but war times are times of sacrifice, and the farming community will not take second place to any in its willingness to sacrifice if that will help to win the war.

Better Methods of "Growing Things" Must Be Adopted.

"Despite all this, laborers are sure to be scarce and hence, if anything can be done to minimize the amount of labor in proportion of production, it should be done. Therefore, the winter months should see all the planning done, the seed secured, the fertilizer purchased, machinery put in shape, and everything made ready for a start in the Spring. Nor must it be forgotten that the securing of high quality seed will of itself make an equal amount of labor from 10 per cent. more productive than if common seed is sown; that high grade fertilizer will give bigger and cheaper returns than low grade, supposed to be cheaper fertilizer; that implements ready for work and horses in good fettle will save hours and days when the spring rush is on.

Increase all the Crops What Things Shall be Grown?

"What shall he grow? If it had only been another acre of potatoes, says the farmer of 1916—who made such big returns at the high prevailing prices from his small acreage. If it had only been oats, says another who learns that oats are creeping up to the one dollar per bushel mark; if it had only been eggs or butter, or wool or lamb or any of those live stock products, say hosts who are getting unheard of prices for these products; if it had only been fruit, says the grower of the Annapolis Valley who can hardly even yet believe the big prices of 1916.

In a way, the question is not hard to settle. If everyone devoted his whole attention to potatoes in 1917, there would surely be a glut and unprofitable prices when harvesting time arrives. Nevertheless, it will pay to increase the acreage of this crop, in which connection it is to be earnestly hoped that farmers will not be tempted by present prices to part with the necessary quantity of high-quality potatoes for their next year's seed. The same reasoning applies to almost every crop that is grown on the farm. But the wise man is the one who, while varying a bit in the direction of what appears to be the most profitable crop, will try to increase all his crops, and especially those that will enable him to feed his live stock at a minimum expendiure for high-priced mill feeds. An extra acre of oats, a half acre more turnips or mangles, another acre of corn, where it can be grown for silage, or in the greater part of the Province, that O. P. V. ensilage mixture (oats, peas and vetches), which has been grown so successfully at the College, will pay in terms of beef, and butter, and lamb, and wool, and eggs, and increasingly fertile fields.

Prospects for "Growing Things" in 1917 Are Excellent.

"Records show that the open fall has provided a chance for at least the usual amount of fall plowing. If even that amount were to get a bit more harrowing or other cultivation in the spring it will grow bigger crops than ordinarily. Those who, by reason of the high prices of 1916, have netted a bit more money, can surely buy an extra ton of fertilizer, which if secured in time, will cost little if any more than in 1916. Nor should purchasing of seed and fertilizer be delayed too long, for farmers will discover, as business men already have, that traffic is so congested that goods cannot be delivered as promptly as in years gone by. In addition to all these things, if the spring is reasonably favorable, it is to be hoped that even at that late time more plowing and cultivation than ordinarily planned upon will be done.

Shall the Fruit Grower "Grow Things"?—The Need of Faith.

"Last Spring, many a fruit grower feared to cultivate and spray his orchard as well as he might have, because of the uncertain outlook for markets. Those who had faith nd a bit of good fortune on their side have made more money from fruit than ever before. We know of adjoining orchards the difference in the product of which was several fold, solely because of the spray that was used, and we have been told of like differences due to fertilization and cultivation. We do not know what 1917 will bring, but the lesson of 1916 to the fruit grower seems to be the need of faith that will compel him to "Grow Things."

The Message of 1916.

And so it goes. There is a limit to the work anyone can do, but if 1916 has left a message to the farmers of Nova Scotia, which should guide them in 1917, it is that they should do their level best to "Grow Things."

Save Fuel & Food

WITH an ENTERPRISE HEAT ECONOMISER on this MONARCH range you have the latest and greatest invention of the age. Based on a scientific principle it saves fuel by saving heat. This one device will save a very large proportion of the first cost of your range in the course of a year.

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We are listing fifteen varieties of strawberry plants this season; some of the best known at the following prices. Senator Dunlap, Warfield and Williams at $3.50; Sample, Buster, Haverland and Arnout at $4.00 a thousand. Send for our free Catalogue at once, or order direct from this advertisement and have your plants come early. Plants shipped early in the season always arrive in good condition and make a big row. Our plants are well rooted, true to name, and will give you the best of satisfaction. Send us one dollar and we will ship you post paid, 150 Senator Dunlap plants, enough for a small garden.

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Terms : 20% Down and $1–$2–$3 Weekly.
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DAIRYING.

THE RIPENING OF CREAM

The difficulty of getting the cream ripened to the proper degree is one which is continually present to the butter-maker, and though practical experience is with many the only guide relied on, this is not of much help to those who have not long years of practice behind them to go upon.

The result of some comparative trials recently made will be interesting in this connection. A quantity of cream was taken which had been ripened to show, when heated, .50 per cent. of lactic acid. It gave all the recognized indications of ripening having been reached—that is, velvety appearance, a consistency of fair thickness, and a distinctly sharp flavour.

The percentage method of estimating the acidity by determining the lactic acid present is the most accurate of all, and by adopting it the novice is practically as sure of his result as the experienced hand.

The churning of the milk was effected under varying conditions of temperature, and the results showed a very distinct difference in the buttermilk as regards its fat contents. A high temperature was found to give with this properly-ripened cream butter-milk containing over 1 per cent. of fat. This is in practice much too high, and the cause was found immediately on comparing it with the buttermilk which was got on churning a quantity of same cream at a lower temperature. This was found to contain only .2 per cent. of fat—that is, only one-fifth of the previous amount; and as no other condition had been altered, the effect of temperature alone was thus clearly made evident.

Two other churnings were made with other portions of the same milk at temperatures intermediate to the two extremes above. The buttermilk here showed .35 and .4 per cent. respectively, the difference being accounted for not so much by the temperature as by the fact that the one giving the higher percentage of fat in the buttermilk was churned for five minutes less time than the other.

In the same series of tests, sweet pasteurised cream was also taken containing .2 per cent. of lactic acid, and was churned under similar conditions. The result on the buttermilk was very marked, for it showed slightly over 2 per cent. of fat, this high richness indicating pointedly the necessity of proper ripeness if the full and proper conversion into butter of the fat contained is to be brought about.

If such a state of affairs is allowed to go on in a creamery dealing daily with considerable quantities of cream, the loss of fat in the buttermilk whenever its percentage rises above .2 can be calculated as a definite amount of money, and it will be seen when worked out to be very considerable. If, for example, such a creamery were to deal with 200 gallons of cream daily, the actual cash value of the loss can be simply estimated thus: A percentage of .3 per cent. of fat in the buttermilk means a definite loss of .1 per cent., since by reasonable precautions this could be easily saved from the buttermilk and made to appear as butter. Taking 200 gallons of cream to weigh 2,000 lb., the .1 per cent. loss would be 2 lb., and this at 2s. a pound means that 4s. are thrown away for every 200 gallons of milk churned.

The standard of necessary loss of .2 per cent. taken above is not by any means the lowest possible, for in well-managed creameries this can be and is reduced to .15, or even, under specially skilled handling and management, down to .12. The two essential points which are to be observed in order to avoid any unnecessary loss are the proper ripening of the cream and the temperature. It is now pretty certainly proved that cream is at its best for churning, so far as acidity is concerned, when it shows between .5 and .6 per cent. of lactic acid, as measured by the acidimeter. If this is ensured the ripening can be taken as being at the most satisfactory stage. Under all circumstances the ripening of cream proceeds best at a moderately low temperature. About 68 deg. Fah., which may be used in winter, should never be exceeded.

The best all-round temperature is 60 deg. Fahr. If this be maintained the cream will ripen in one and a half to two days without the use of a starter, or if, say, 3 per cent. starter be added at this temperature the ripening will be completed in from 24 to 30 hours. The time depends also slightly on the amount of cream taken.

A small quantity of cream is found to take somewhat longer than a larger amount, the diminished loss of heat in the latter case tending to hasten the process of fermentation. Thick cream also ripens more slowly than thin, as the presence of the increased quantity of fat tends to retard the opening.

Agrostis.

FEEDING YOUNG COWS

Who has not experienced the discouragements in feeding young calves from the pail? Those stunted, rough-coated, ill-doing creatures often appear to give no response to the feed and care which the average farmer or farmer's wife nds time to give them.

But there is a reason, and this reason is largely because practically no attention is given the calves on the average farm. They are simply fed their milk after it is separated, whether early or late in the day. The first old pail that is handy is used to hold the milk for the calf, and little attention is given to know whether this pail had previously contained sour milk, swill for the pigs, refuse for the hens or any of the other materials carried about the farm stable every day. A calf could scarcely be expected to thrive under such conditions.

One of the best calf-feeders the writer has ever known followed religiously these three rules in feeding his calves:

1. He fed them regularly every meal.
2. He made sure that all utensils were clean and sweet.
3. He always added some material to the milk to replace the butter-fat taken out in skimming or in separating.

An account of this man's experiences and methods will be of interest. They follow:

"As a rule the new born calf is left with its dam only a day. Exceptions are made for badly caked udders, when the calf is left with its mother from two to six days. The cow becomes reconciled sooner to being separated from her off-spring and the calf learns to drink more readily if the two are left together only for a short time. After the calf has had a couple of liberal nursings it is put by itself in a clean, bedded stall, and left to meditate for twenty-four hours. Then we take it a lunch of about four pounds of milk and the calf is willing to learn a new way of feeding.

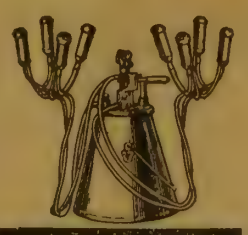
"The best way to get the calf's nose into the milk is to slip your finger into its mouth from beneath its lower jaw. It will then follow your hand into the pail and start operations. From this on the calves must be treated as individuals. Some learn to drink from their first lesson, others have to be coaxed for a couple of days.

"The amount of milk given is increased gradually from three and one-half or four pounds to about six pounds at two weeks old. We weigh each calf's milk separately and try to take it from the same bunch of cows. The milk is also fed as soon as possible after milking. This is not so important when the calvest are older for they will not scour so easily then. At the first trace of scours we cut the calf's feed in half and gradually bring him back to full feed. Holstein milk is fed which does not need diluting. Milk from breeds having a very high percentage of fat might well be diluted with skimmilk from the start.

"At about one month the calves are gradually changed from six pounds of whole milk to seven or eight pounds of skimmilk. They are also given a chance to nibble at some bright mixed hay. Later alfalfa hay is given, when they have stronger stomachs. Grain is also offered at one month. We feed a mixture made up of whole oats, six parts; bran, three parts and one part of oilmeal. Just rub a little on each calf's nose after it has finished drinking the milk and it very soon learns to eat it. One-half pound of this grain is gradually increased to about two pounds at six months. The calves also have free access to water and are given some salt. They are weaned at six months unless we have plenty of skimmilk.

"The care observed in feeding to prevent scours will be of little use if the feed is not given in clean pails.

"I could not have done without it this Summer, as help is so scarce"



Here is the experience of one of the scores of dairy farmers for whom the

EMPIRE
Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

R. R. No. 3, INGERSOLL, ONT.

Gentlemen:—

I have used one of your "Empire Milkers" since early last April, on from 30 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier.

I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean.

I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.

WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. L

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Standard Hand Separator Oil

is manufactured especially for use on hand separators, where the close fitting bearings require a quick-acting lubricant. It is a pure mineral oil which cannot gum or clog the bearings. It not only serves as a superior lubricating oil but prevents seam rust and corrosion on the exposed surfaces of the separator. Put up in pint, quart, half-gal., gal. and 4-gal. cans. Sold everywhere by reliable dealers.

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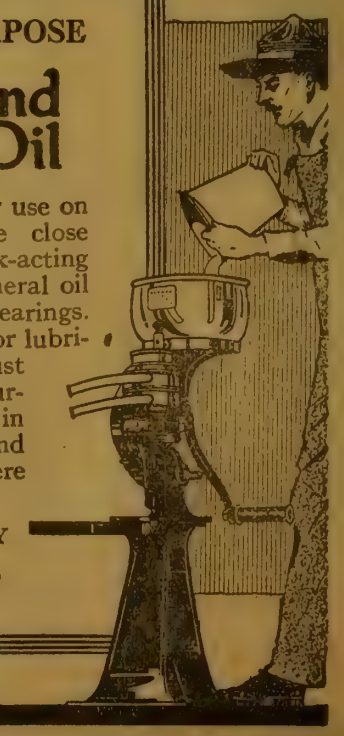

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DIGS YOUR DITCHES GRADES YOUR ROADS

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A tonic that drives away that distressing feeling of tiredness and nervousness. A tonic that brings strength and vigor—that stops Headaches, Biliousness and attacks of Indigestion—that purifies the blood and clears the complexion of pimples and blotches. This is

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The best of tonics for women especially because it is prepared of Nature's healing herbs—and used by the women of Canada for more than half a century.

25c. a bottle. Family size, five times as large, $1. At most stores. 26

The Brayley Drug Co., Limited, St. John, N.B.

We wash our calf pails with well water and a brush immediately after feeding, and scald them out in the milk house about twice a week. Nor do we allow any uneaten grain to remain in the feed box but sweep it out clean before each feeding. This is also scrubbed clean if any feed has become moist and decayed.

"If similar precautions are carried out, no one need be afraid to attempt raising calves by hand. They may not have quite the bloom and finish found in calves that run with their dams, but they will be well grown individuals with ability to care for themselves thereafter."

MILK FOR DAIRY CALVES

In feeding the dairy calf, the aim is to cut down the period of whole milk feeding. At the North Dakota Experiment station, two lots of four calves each were fed as follows: Whole milk first three weeks to both lots. From then on, lot A was fed half whole milk and half skim milk till six months old. Lot B, after three weeks old, was fed skim milk with flax seed. Just enough flax was added to supply as much fat at was given the calves in lot A in their whole milk. Each calf was given two gallons of milk a day. The whole milk calves made the best gains the first three months but during the next three months the skim milk calves nearly caught up, the four lacking but 15 pounds of weighing as much as the whole milk calves. Several expert cattlemen who examined the two lots pronounced the calves in lot B in as thrifty a condition as those in lot A. The saving in using skim milk and flax in place of the whole milk amounted to $19 per calf for the six month period. The grain and hay cost the same for both lots.

TRIBUTE TO CREAM GRADING SYSTEM

In a recent issue of "The Chicago Dairy Produce," a strong appeal is made for the introduction of the grading system of paying for cream at American creameries. Referring to Canada's experience the editorial says: "There is one country at the present time that is paying some attention to cream grading and making progress along that line, and that country is in time going to be one of this country's chief competitors in butter production. Canada is the country. Its creameries, dairy commissioners and assistants are working together to bring about a universal system of cream grading. Some of the creameries in Canada that are making the greatest efforts in cream grading are having wonderful success, and the results they are obtaining are passing all their fondest expectations."

PERIOD OF USEFULNESS IN COWS

D. E. G., writes: "At what age does the average cow become useful for breeding and milking purposes?"

The exact age at which any cow becomes useless for breeding and milk production is indeterminate, depending on individual characteristics. In general the period of productive usefulness of cows is reached at 12 years of age. As a rule the milking breeds of cattle become less productive at an earlier period of life than the beer breeds, owing to the greater drain on thei system by the development of milk production lessening their vitality.

COW OWNERS EXPECT MORE FROM A

DE LAVAL

– more cream
– longer wear
– better service
– better value,

AND THEY GET IT

A Catalogue of the NEW De Laval Machines will be gladly sent on request, and if you don't know your nearest local agent please simply address the nearest De Laval main office as below.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

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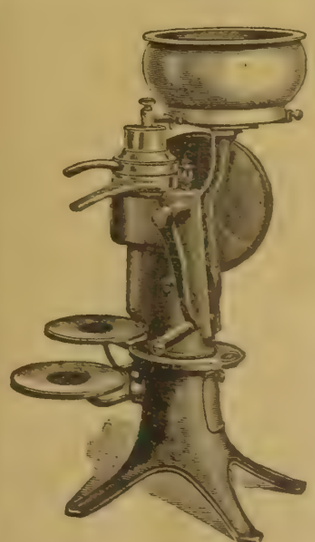
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



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Turns easy—Skims clean.

Oil Splash. Separate bowl spindle.

Six Sizes—135 capacity per hour to 800 lbs.

Guaranteed to give Satisfaction.

Low cash price or on time if desired.

Write for agent's address.

Catalogue and Prices.

King Separator Works of Canada,
BRIDGEBURG, ONT.

LIVE STOCK.

FACTS ABOUT DISEASE THAT THREATENS CATTLE INDUSTRY

The annual loss caused by contagious abortion in cattle reaches into millions of dollars. Many breeders dread abortion more thon tuberculosis, and in many sections the loss greatly exceeds that of the dreaded white plague.

The disease is of such insidious character that it may be brought into a herd by an unsuspected animal without attracting attention, as there are no noticeable symptoms. Furthermore, this malady baffles the skill of our best veterinarians. Breeders supposed to be honest in all their dealings may sell affected cows and spread the disease into herds of uninformed beginners.

The laws should be just as stringent on the sale of animals having abortion as those having tuberculosis. Several states and the national government are for appropriations for work in the eradication of abortion, and some of their energies should be directed toward the sale of diseased animals.

I know of herds that have had the disease for over 15 years that still lose as high as one-third of their calf crop. Other herds that have come under my observation have been cleaned up in the course of a year or two.

Contagious abortion is caused by the bacillus abortus. The premature birth seems to be only a symptom. Many cows in diseased herds do not abort, but become shy breeders, taking the bull repeatedly, and some never conceive. Aside from the loss of the calf, the loss by reduced milk flow, failure to breed and retained afterbirth will reduce a profitable herd to one that will be a financial loss to its owner for several years.

The disease is carried in many ways. Probably the easiest way of introducing the trouble into a healthy herd is by an affected cow or bull. A friend of mine suffered 26 abortions in his herd in one winter. The trouble came from his neighbor's diseased bull jumping the fence and serving one of his cows. It may be carried by dogs, cats or birds from a diseased farm to a healthy one. If one is in a diseased territory every precaution should be taken to prevent the introduction of the disease.

There seems to be a difference in the virulence of the bacteria. In some herds it is easily wiped out only after a portion of the herd has aborted, while in other herds the disease persists in spite of all treatment.

Blood tests can be made to show whether an animal carries germs of the disease. This test does not seem to possess a very great degree of accuracy. The claim is made that by this means an affected herd can be tested and those not responding to the test be isolated from the diseased ones.

As a rule, when a number abort in a herd, practically the entire herd will be diseased.

Many methods of treatment have been offered. Several years ago methylene blue was claimed to be a specific. In many herds where the disease existed for years it was found to be a failure.

Carbolic acid is claimed to be a cure, and I know of several herds that were cleaned up by using the acid treatment, although I will not vouch for it as a cure. The treatment consists of giving hyperdermic injections of 10 cubic centimeters of four per cent solution of pure acid every 10 days, or giving two drams crude acid, well diluted, on the feed every other day throughout pregnancy. Many serums are being used with indifferent results. Cows show immunity after one or two abortions, and many of the so-called cures are the result of immunity resulting from abortions.

The most logical method of overcoming the disease that has come under my observation is followed out by a breeder whose herd I have observed very closely. He says: "The sooner the entire herd aborts the quicker I will be able to overcome the disease. I very seldom have a cow that will abort the second time. With careful flushing of the affected cows and sanitary measures I have only one or two that have not afterward got in calf. I also believe that calves from cows that have aborted will be more disease resistant than those from healthy cows." This man had only a few calves last year, while this year every cow is carrying a calf full time.

Every cow is given an antiseptic douche of a ½ per cent. solution of cresol or other standard disinfectants for several weeks after calving and for several weeks before being bred. Those that are hard to get in calf are given the phosphate of soda treatment. An ounce of granular soda to a pint of water is injected into the vagina an hour or two before being bred. No cow is bred for at least two months after calving, and then only after all discharges have ceased for at least a month. Her stable is whitewashed and a good disinfectant used regularly throughout the barn.

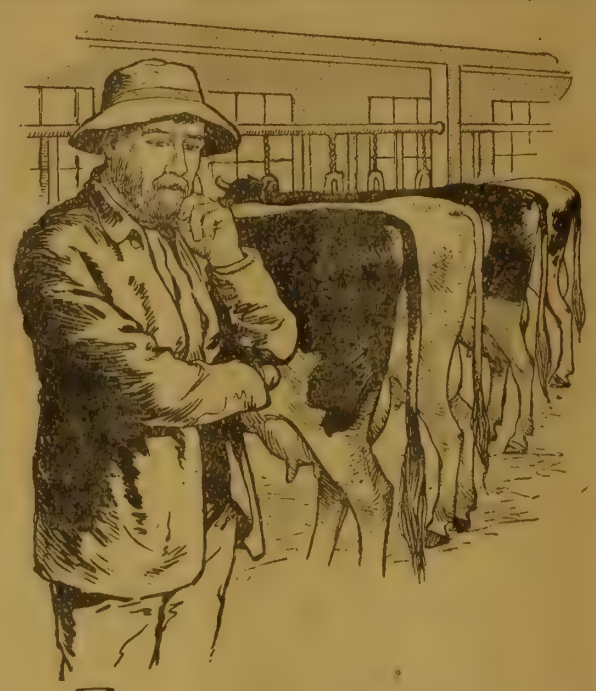
Owing to the cheapness of crude carbolic acid this is fed, but he does put great faith in this. He does not believe in flushing the sheath of the bull after service, as there are many folds that are almost impossible to reach. A large breeder that has had the dicease in his herd for years does not believe that the bull is a great carrier of the disease, as he has sold many bulls into healthy herds that remained healthy. However, if a bull serves badly discharging cows he would become an agent for spreading the disease.

Many commercial remedies are on the market. Great claims are made for them, but most of them do not produce desirable results. The government has been working on a serum to produce immunity. Their experiments have been encouraging. If they succeed in producing a serum that will give the same good results hog cholera and other serums do, contagious abortion will lose its terrors.

Dr. Williams of Cornell has been doing more work combating abortion than perhaps any other man. His treatment is along the line of sanitation, and is finding favor with many breeders and veterinarians.

These are my observations in many herds. There is no certain cure for this scourge. Every cattle owner should strive to prevent the introduction of abortion into his herd. The same care must be taken in buying as is taken in getting tuberculosis free animals.

Once it enters a herd, profits are gone for a number of years, and I would advise the use of the measures recommended by the government over those of unknown merit and great cost. Your experiment station will be glad to advise you fully. Keep the germs of abortion away from your herd. No germs, no abortion.—O. R. F.



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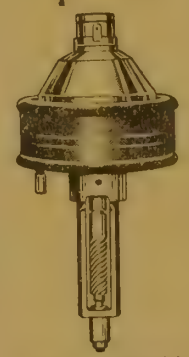
about the future size of your herd

The capacity of the Standard cream separator is interchangeable. You take no chance on your future separator requirements. If later on you find that you need more cream separator capacity to take care of your larger herd, all you have to do is to replace the bowl and fittings—not the whole machine, if you have the

Standard



Interchangeable Bowl

This bowl and casing lift right out—easy to replace with a larger size.

This important, exclusive feature is certainly a money saver to dairymen and farmers. It costs a great deal less to interchange bowls with the Standard than to exchange the entire machine for a new one. Putting in the new bowl means no loss of efficiency, for the bowl is changed complete. The gearings of all Standard machines are made for 100 pound capacity. Think of the over-capacity advantages you have in 350 to 800 pound Standards!

All you have to do in order to change a 350 pound capacity machine into a 450, 600, 800 or 1000 pound machine is to substitute your bowl for the different capacity bowl and attachments that you require. We accept the used bowl in exchange, less reasonable allowance for wear and tear. So you see you need not worry a minute about the size of machine you buy now.

Other features of the Standard are its low supply can, splash oiling system requiring attention only every three months instead of daily oiling, and its close skimming capacity; the Standard gets all but one-tenth of a pound of cream per 1000 pounds of milk skimmed, while other separators lose half to a whole pound of cream. Write for free literature.

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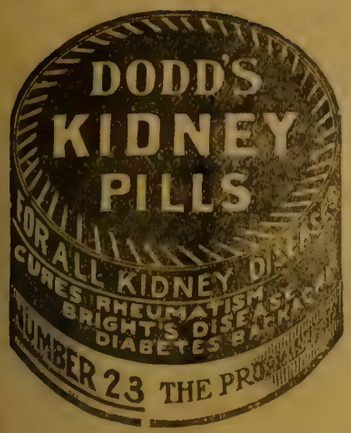

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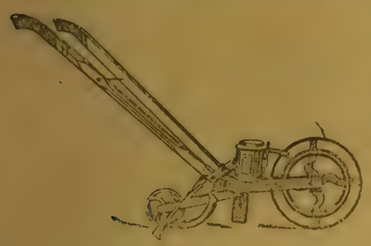

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NOTICE

The attention of owners of stallions is drawn to "An Act to Provide for the Inspection and Registration of Stallions," 5th George V., Cap. 18, and 6th George V., Cap. 44, under which all stallions travelled or offered for service must be enrolled at the Department of Agriculture on or before the 1st day of May, 1917.

Inspectors will be appointed by the Department, to report on each animal before a certificate is issued. Evidence of breeding and ownership must be submitted and a fee of $2.00 forwarded with application.

Further information can be obtained by applying to

Department of Agriculture

Fredericton, N. B.

BUTTER PARCHMENT
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TO PRODUCE MORE FOOD FOR THE EMPIRE.

WHAT CAN NEW BRUNSWICK BEST DO

Editor The Maritime Farmer

From the preparations being made the farmers of New Brunswick, evidently intend this season to keep up their potato acreage and by taking good care of their growing crop to have a large surplus of very excellent food material for those who need it, but this is only, so to speak, a minor branch of farm production.

In Nova Scotia the slogan is being raised "GROW A MILLION BUSHELS OF WHEAT FOR 1917". This cry should apply with equal force to the North Shore and Upper St. John River counties of New Brunswick, but there is still another branch where this province can shine.

The hay producing sections of the province are to-day full of unsold hay. Much of it the very best of fodder, but not saleable as market demands go now. There is also every indication, at the present time, for another large hay crop in 1917. This means a surplus of fodder that should be turned to account. There is also a large amount of pasturage which, during late years, has been only partially used.

Therefore, it would seem that the farmers of New Brunswick especially in Westmorland, Albert, Kings, Queens Sunbury, York, Carleton and Victoria, should make every effort to produce meats and dairy products to help out the food shortage.

Let every breeding female be retained, every calf raised, and every ewe lamb kept. In 1914 the Provincial Statistics showed 253,273 cattle, 142,141 sheep and 85,167 swine in the province, while for 1916 there were only 247,609 cattle, 138,883 sheep and 82,847 swine, and yet in 1914 there were only 777,000 tons of hay compared to 850,000 in 1916.

Prices are temptingly high for calves and lambs, it must be admitted, but let us start to increase the supply and not kill the goose that lays the golden egg, for scarcity, world wide scarcity, of meats and dairy products there must be, no matter what we in New Brunswick may do.

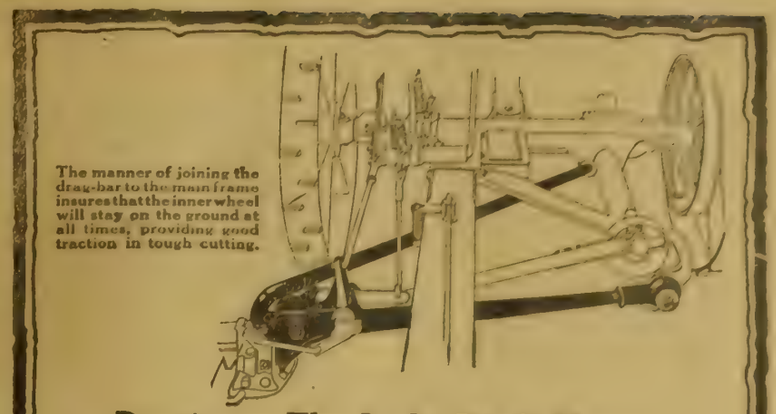
The objection may be raised that we should not encourage the keeping of stock when grains and their products are so scarce, but here let me say that with care cattle and sheep can be grown with very little grain food. With clover hay, young cut and well cured, and an abundance of turnips, beef, milk, mutton and wool can be well and economically made in this Province. With from 10 to 20 pounds of skim milk per day, 100 pounds ground oilcake and 200 pounds of grain, preferably oats, wheat, bran and corn meal mixed, a calf can be started and well fed until it will thrive on pasture or clover hay and turnips. Lambs can be brought up without grain and they will produce wool and when it is desired to make them into mutton, 50 pounds of grain each in addition to hay and roots will finish them into prime carcasses.

Therefore it should be urged,—

1.—That every calf should be reared; males castrated and fed for beef.
2.—That every ewe lamb should be reared and information sent to the Provincial Department of Agriculture as to how many are for sale. Hundreds of farmers want to buy breeding sheep this year.
3.—That all steers of dairy breeds should be sold for beef at a year or eighteen months.
4.—That the Dominion Live Stock Commissioner and the Provincial Department of Agriculture should redouble their efforts to enable every farmer to have the services of the best male animals for the improvement of herds and flocks, and should assist in the placing of stock in those districts where it is especially needed. Prof. J. W. Mitchell, Provincial Live Stock Commissioner, Fredericton, is inviting all who want stock and all who have it for sale to correspond with him.

These, I believe, to be ome of the lessons of the times and the duties of the hour to be observed and acted upon in New Brunswick to-day, if we are to do our part in Winning the War.

W. W. HUBBARD,
Supt. Dom. Exptl. Station,
Fredericton, N. B.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The normal child is of an enquiring turn of mind, and if properly directed, quickly becomes interested in nature, in the common things of the neighbourhood, which are inseparably linked up with life in the country. It is education for the great majority. "Nature is never special, and a knowledge of her laws may form a sound Grecian foundation upon which to build the superstructure of a life as useful to the state, and as satisfying to the inner needs of a man, as if the groundwork were classics and literature. The two, indeed, cannot be separated."—W. R. Reek, B.S.A., in Report, P.E.I. Department of Agriculture.

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THE HORSE

EDUCATING THE COLT

Editor The Maritime Farmer:—

Some years ago one of our Canadian Farm Journals gave prizes for the best method of breaking or training young horses to work. The winner of this contest described his method as "Educating" the colt, rather than breaking him, and in detail described his method of handling these youngsters from birth, all of which was wise and proper, if a farmer or breeder could give the time necessary to carry out his full corriculum, that began at weaning and continued almost daily until he reached the age of service.

For the busy farmer this idea is not practical. Few could find time to attempt to carry out his directions. The usual custom is to neglect handling the youngsters until we are forced to put them to work and then the fight is on.

I always considered any man with ordinary "horse sense" should have no difficulty in putting a colt of one of the draft breeds to work. They are usually quite docile animals and not inclined to put up any valient opposition to being hitched; but when we breed colts from Standard or Thoroughbred parents, we should expect these hot blooded, highly intelligent animals to resent rough or ignorant handling. Only a real "horseman" should attempt to break a horse known to be from spirited parents. "Horsemen" like artists are born not made, the former understand horses, are close observers, and a good man can break any colt without having serious trouble if he, with the knowledge of the true horseman, has patience. A quick, passionate man should not attempt to break a young high-spirited colt.

I am satisfied that no horse living would be a balker or kicker if he were properly handled in his youth. In fact, I will wager to break any colt that has not been bridled or spoiled in a few days, and the breaking is not difficult if we go about it the right way.

I don't have time to handle any young horses before working age, much as I know it would be wise to do so. Furthermore, I have no time to loose over them afterwards.

We raise one or two Standard bred colts (or colts of that and Thoroughbred breeding) every year. At present I am using a good mare of rather erratic temperment, which some men would call a bad acter. The fillies from her are high strung and ready to fight at the least provocation; but it does not matter how they are bred, how nervous or high strung they may be or difficult to even handle in the stable, we can easily bring them to reason when we decide to put them to work.

I never attempt to hitch a colt singly, nor even with one horse, although they may be handled that way. After they have worn harness for a half day or so in the stable, we then prepare to hitch them with two well broken horses in a cultivated field to an implement with a seat and operated with a lever, so that the draft can be applied and relieved as necessary. Have the two older horses completely harnessed and everything in readiness to hitch as quickly as possible. Then with an attendant endeavour to get the colt attached to the implement and horses as quickly as possible. This may take some skilful jockeying, but patience must be exercised. Under no circumstances should a colt be struck, as they are otherwise scared enough. This is what we endeavour to overcome, and we can in a short time, with patience and kindness, get the youngster securely hitched. Then cut them clear and let them go. I never attempt to hold them hard enough to risk a stop, but keep going, putting the draft off and on as I think necessary. I take long turns so the traces do not touch them. My idea is to keep the colt going and pulling in the soft ground steadily so as to tire it as quickly as possible. This is generally brought about in an hour or two. Only in bad cases is it necessary to sweat a colt very badly. It is wise to fit the collar with a soft sweat pad to guard against galling, for it is absolutely necessary with some fillies to keep going until they are completely leg-weary.

After they begin to show weariness, I endeavour to teach them to rein and to turn short, letting the traces rub against their legs and handling them. I keep going the first time until they are perfectly docile and it is really surprising how soon they will quiet down. I never let them out of harness until I can handle them alone and unyoke them myself. This may read like a simple and easy method, and it is, but a little harder to carry out by some men than it may appear. Patience, kindness and quickness are necessary, and any good reinsman can break any colt living if it has not been previously spoiled.

I never attempt to hitch a colt the first time alone. In fact, my method is to drive a colt double in a light surry, after being worked on soft land as above described, for the first summer while they are running on grass. We can get a little use out of them in this way and the double work breaks them perfectly.

I have never had a balker or bad acter in any single instance, although I raised three colts from a hot headed mare that never drew anything heavier than a driving carriage or sleigh until she was twelve years old. For this reason I bought her for a trifle, and while her colts inherited her disposition, all of them were in this way, broken to be perfectly mannered mares.

Usually it is not necessary to repeat this sort of team work more than once or twice, but in handling colts it is always better (if you have them) to hitch with two other horses, put them on the outside clear of a pole. Always yoke the colt last and unyoke it first, to avoid accidents. Keep constantly in mind that it is young and liable to unreasonable fright and that horses have remarkable memories. Any little accident or mix-up may teach them some trick they may never forget. I am satisfied that all the foolish little freak tricks that so many driving horses retain to maturity, were taught them by careless or ignorant handling when young.

Many otherwise good carriage and road horses are badly discounted in value by having some of these nasty habits. Every breeder of such horses should take special care to see that they are handled carefully when young. I usually hitch a colt, if well matured and fed at two years of age, and use them occasionally after taking great care that they are not over driven or worked in this way. We can get considerable use of them at an early age and guarantee securing a good mannered, useful horse at maturity

W. M. LEA.

NO HORSE CAN DO HIS BEST WITH BAD FITTING HARNESS

Both for comfort and real good service there is a great deal in having properly fitting harness on work horses. It is quite a simple task to fit a harness properly. I would never tolerate any departure from a reasonably perfect fit for it is often a cause of accidents; besides a harness which is too tight or too loose lessens the working capacity of the horse.

When the bridle is put on the horse consider it critically. Is the browband of the proper length? Most browbands do not fit as they should but are too loose and cause the sensitive ears to be painfully pinched. Blinkers, those abominations to the horse are bad enough when in good condition but carelessly kept they become warped and seriously obstruct the vision. If they flare or the cheek pieces are too loose they lose their effect in the one instance and are dangerous as affording flecting glimpses of following vehicles in the other.

The cheek rein needs most careful adjustment. If the horse is compelled to hold his head too high he loses in power, but to have the check just right gives him a chance to rest his head and neck. Bits are often too wide rather than too narrow. I want the throat latch always to be quite loose.

It is important that the collar fit perfectly. Sore or chafed necks are the outcome of collars which are too much bent at the top. Collars should not be too broad in the tree, especially if the horse has a thin neck or is somewhat thin in flesh and the ridge of the neck suffers unless a housing is worn. They generally fit better when placed well back and the girth does not get a chance to chafe the skin at the elbows.

The breastplates should not be allowed to dangle aimlessly about as they have vitally important duties to perform in handling the load. Backbands should not be too tight as when tight they are inducive to kicking. Tight girting is never necessary. The breeching should hang in the right place and be just tight enough to come into play when the tugs or traces slack.

Very often a mistake is made in adjusting the inside reins on a team. As a rule two horses work better together if they are not worked too closely. The outside rein should be adjusted more tightly than the inside one. Then the horse on the side to which the team is to turn will receive the signal first and his movement in that direction will bring the other horse around without jerking him out of his course. A team drives much more easily and with greater efficiency when the reins are adjusted in this manner.

The neck straps and neck yokes need proper adjustment. The ordinary neck yoke strap that runs through the neck yoke ring in the form of a triangle does not make it possible for the horse to give all of his strength to backing. If possible, straps should be so adjusted to the neck yoke that they will connect directly with the breeching on each side. Thus the horse pulls with two tugs or traces and backs with two straps in the same way.

Not more than half an hour is required to properly adjust the entire harness and when it is once adjusted it need not be re-adjusted as long as it works well and is used only on one horse. No horse can work to his greatest efficiency unless the harness is so adjusted that every movement counts for work.

W. H. UNDERWOOD.

SHOEING OF FARM HORSES

Farm horses are generally all-round-purpose animals, and, for this reason, they must be kept well shod. Some horses demand more frequent shoeing than others, but the average is once every four or five weeks where the animal is constantly on the road. As the shoe protects the part of the hoof which it covers, while the remainder is constantly wearing away, it becomes necessary to remove it occasionally, and, by paring the more rap-

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that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

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idly growing parts; to bring the different portions into their proper relative positions. If the shoes are allowed to remain on an animal's feet much longer than five weeks without refitting, a deformity of the whole foot may result. Of course where a horse is not worked constantly, it is not necessary to have him shod so often as this. Shoes should never be allowed to remain on a horse after he once begins to limp. Remove the shoes at once and either have them refitted or give the animal a short rest. If a horse can be kept off the road during the summer, remove the shoes and allow the feet to come down to the ground and get the natural frog pressure.

Many farmers throughout the country effect a considerable saving of time and money each year by having a set of horseshoeing tools and doing their own shoeing. Especially during the busy summer months time is often saved if the equipment is at hand for replacing a loose or lost shoe on an animal. It often happens that a horse pulls oc a shoe and must be taken several miles to a shop on the busiest day of the week. With a set of shoeing tools and a little practice any farmer possessing a fair degree of mechanical skill can set the shoe at home in a short time, thereby saving the trip to town. A set of shoeing tools which includes a forge, hammer, pincers, paring knife, rasp and clinch iron can be bought for less than $10. It is best to buy the new shoes and calks at the hardware store and fit them up at home during spare time. A set of blacksmith's tools are also very useful in repairing the farm machinery from time to time. A small portable forge will answer every requirement in doing such work and it takes up but little room in a corner of a shed.

The first step in shoeing a horse is to remove the old shoe or shoes. Cut off the nail clinches close to the hoof with the cutting nippers, then with the pincers grasp the shoe on one side and, holding the foot as securely as possible, wrench the pincers towards the other side of the foot and downward towards the toe at the same time. This will loosen the shoe on one side, then do likewise with the other side and the shoe is off.

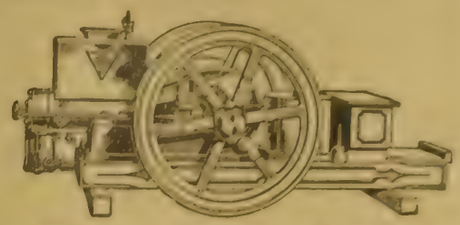
With the cutting nippers now cut off the outgrowing irregularities of the hoof, taking care to trim the hoof least where the shoe shows least wear. This precaution should be exercised at each shoeing in order that the ground level of each hoof may be maintained. Care should be taken not to trim the hoof too deep at the heel. Horses differ widely in form and growth of hoof, but the general rule is to trim off as little of the heel as is necessary to get a good foundation for the shoe, and enough of the toe to maintain the "ground level." To preserve the hoof in a natural and healthy condition should be the standing rule. Paring away the sole is a bad practice which is largely based on error. The sole is not constituted like the hard outer crust or "wall", which grows out indefinitely unless reduced by the shoer's instruments or worn off by contact with the ground.

Having clipped the hoof, take the farrier's knife and smooth down the shoe foundation. Afterward true the bottom of the hoof with the rasp. Care should be taken that all parts of the shoe foundation are in the same place, unless a part of the hoof is tender and must be protected; otherwise the shoe will rock and the nails will work loose.

With the above facts in mind, in regard to trimming the hoof, always fit the shoe to the foot, not the foot to the shoe. Heat the shoe uniformly until nearly red hot, then with the tongs hold it in its future position and fit it until it touches the hoof at all points on its foundation, thus insuring a perfect fit.

"The greatest convenience on the farm"—

that's what farmers who own them say about



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The size of shoe required by a horse may be learned from a blacksmith who has formerly shod it. The shoe should be slightly narrower than the hoof to allow for finishing the hoof to the edge of the shoe. It should not be too long, for then it is very apt to be stepped on and torn off. Each farmer should study his horses' feet, examine the hoofs and become acquainted with the sort of shoe that each animal demands. It may be said that, in general, the farm horse should be shod with a moderately heavy shoe, one that will be durable and will protect the feet. But since a heavy shoe is much more likely to come off and be lost, and also because it greatly increases the labor of the horse in traveling, as light a shoe as will fill the requirements, one proportioned to the weight of the animal and the nature of its work, is infinitely preferable to an excessively heavy shoe.

One part of shoeing which usually perplexes the beginner is that of driving the nai ls so they will come out at the proper height on the hoof. The nails must not come out too low, else

(Continued on page 450)

OMAZON

The Canadian Food and Tonic for horses, cows, hogs, sheep and fowl, is composed of nourishing ingredients made from medicinal powders and roots constituting the best food and tonic for animals.

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POULTRY.

HOW TO RAISE CHICKENS

Thee are several factors which influence the cost of production of chickens regardless of the breed or the variety, and among these are the age of the parent breeding stock, both females and males, the management of the breeding stock, the incubation, the brooding, and the rearing.

First, let us consider the age of the breeding stock. Many people go on the assumption that it is never good business to breed from pullets. But this assumption is incorrect. It is good business to breed from pullets, providing the pullets are mature, that is, providing the pullets mature and get to laying by the middle of November. If such pullets as these are used, they will produce cheaper chickens, because in the first place they will produce more eggs from which to hatch chickens, and this is a big item. Then again, these birds are right in the prime of their youth and are strong, and full of vigor, and will impart these qualities to their chicks, and the hatchability of the eggs and the livability of the chicks will be greater, thus we get a cheaper chicken.

Let us consider now the male. It was formerly thought that a cockerel should seldom or never be used in a breeding pen, but it has been demonstrated with several thousand birds that the cockerels will produce 20 per cent. more chickens than the cock bird, and when we consider these figures, it certainly looks as though the cockerel would produce a cheaper chicken than a cock bird.

In regard to the management of the breeding stock, it might be said that much of the fertility and the hatchability of the eggs depends on how the stock is handled. If the male is allowed to run with too many females, the germs will not be as strong, and while the fertility appears high, yet the hatchability will be low, and this state of affairs is against the production of cheaper chickens. If the breeding stock has become too fat, then of course not as many eggs will be produced as should be, and these eggs will not be as hatchable as they would have been had the stock been kept in good condition, and this is also against the production of cheap chickens.

There is an item of feeding which should be mentioned here, and that is the feeding of wheat. During the past year or more since wheat has been abnormally high, there has been much discussion and many questions asked as to the economy of feeding wheat. It is my opinion that we cannot afford not to feed wheat, and this applies particularly during the breeding season, because if wheat is not fed, I believe that the egg production will not be as great as it would if wheat were fed, and I believe that the eggs will not hatch out as many strong, livable chicks as they would if wheat were fed, and this has quite a bearing on the cost of our chickens.

The next question is the one of incubation. So much depends upon the length of time which eggs can be held and the temperature at which they are held, that it is worthy of mention here. If the eggs are ot held over a week or ten days, and are held in a comparatively moist place and at a temperature below 68 (because the development within the egg begins if the temperature is raised to 68-70), then if other conditions are correct, they will hatch nearly as well as though they were fresh; but not quite as well, so if we are to get the greatest possible hatch from our eggs, they must be incubated as soon as possible after they are laid. The actual incubation itself, of course, has a great influence on the per cent hatched. If the temperature is too low, or if it is too high, or if it varies, then the hatch will be impaired, and when the chicks come out they will have cost us a great deal more than they should.

If the eggs are brooded by the hen, then we must see to it that the hen does not come off her nest too frequently, and that she does not stay off too long; and then again, we must see that she comes off as often as she should (because many hens will sit too closely). If any of the eggs become broken, we must wash the remainder so that they will not be ruined by the contents of the broken egg, being smeared over them. All these factors have a bearing on the per cent hatched, and govern the price of our chickens.

The question of brooding chickens, especially in large numbers, has been greatly simplified by the use of the coal-burning brooders. These brooders will brood from 300-500 (though I think that 300 chicks in one flock is enough), and the brooder is as easy to care for as an old kerosene brooder with a capacity of 50-75, and is much safer. The chicks get a better supply of fresh air, since the circulation under the coal-burning hover is a great deal better than the old kerosene-burning hovers and the very fact that the chicks do get much more fresh air, which is so essential to their life and growth, the mortality is much less, and of course the cost of chick is much less. There is a question of labor in caring for the brooder, and here the coal-burning brooder is far superior to the old kerosene brooders. Because a man can care for one coal burner in the same length of time that is required to care for a kerosene burner, and the capacity is at least five times as great, and the labor cost must be reckoned with when we consider the production of cheaper chickens.

The rearing of the chicks has a great deal to do with the economy of the production. If the chicks are kept growing all the time, they are going to be grown more economically than as if they have stunted periods, and they can be kept growing better if there is a constant supply of dry mash before them all the time much better then they can if they are fed on wet, sloppy foods. If they have plenty of yard room where they can run, where they can search out grubs, bugs, worms, and the like, they will be grown cheaper than if confined closely. If an abundance of shade is furnished them, it will make a great difference in the growth, because the extreme heat of July will sap the life and strength right out of the little chicks, especially those hatched late and not fully feathered. So in order to overcome this extreme heat, we must provide some sort of shade.

One last thing I wish to mention in the production of cheap chickens, and that is the individual himself. If he does not have the mother love for the little chicks, nor a faculty of keeping the loose ends picked up, and does not pay the strictest attention to details, then he will never be able to produce chickens cheaply.

A. W. Richardson,
Poultry Division, U. of M.

FEED CHICKENS WELL FROM TIME THEY ARE HATCHED.

Hatching chicks, either by the use of hens or with incubators, is an easy matter compared with getting them well started toward early maturity. To rear a fair percentage of young chicks one must have a thorough knowledge of the requirements necessary for their growth and development.

During the first week or ten days after they are hatched special precautions must be taken to guard against bowel trouble. Withhold food for the first forty-eight hours and give them no water until a few hours after the first food is given them, but after that time a supply of fresh water should be kept constantly before them. As a general proposition dry feeds are preferable, the feeding of soft mashes prevents the chicks from securing as much exercise as is necessary for their proper growth and development, besides eating soft food too greedily and standing around has a tendency to weaken their digestive organs and powers to resist disease. Young chicks that are fed a mixture of small grains scattered in a litter of cut clover or alfalfa keep busy for two or three hours scratching and hunting for the grain, thus securing the necessary exercise.

Oat meal, cracked kaffir corn, millet and grit are excellent materials to use in the young chick's ration. We feed our chicks twice the first day they receive grain, three times the second day and four times a day after that until they are six weeks old. It is a mistake to feed too heavy rations mornings and noons. The chicks thrive better when they are allowed to become hungry for the evening meal so that they will eat enough to last them until morning. After they begin to scratch in the litter for the grain feeds we substitute cracked corn, whole wheat and buckwheat for the ration fed at the beginning.

Pure fresh water is just as important as clean and wholesome food and should be kept constantly before the chicks after they are three days old. The drinking vessel must be kept clean, for filthy water means sick chicks, and is a prolific source of disease germs that work havoc in the flock.

On the average farm there is little to be gained by hatching the chicks too early. The ideal time for young chicks to come is about April 20. Then by the time they are two weeks old the weather conditions are usually favorable for allowing them to run outside for a short time each sunshiny day. Never allow them to hump up outside and become chilled, but so long as they are running around looking for choice bits of food they will not be injured by the exposure. The run in the open air where they can exercise their instinctive choice of grit and bits of food causes them to eat larger quantities and to assimilate it better. Then too, the chicks that run outside gather green food, and insects too, add to the variety of the rations.

Green food and meat are necessary. No prepared feeds can take the place of the tender bits of grass and small insects. Chicks that run out a few hours each day on a good range have a decided advantage over those that are started earlier and fed succulent vegetables and meat scraps. Of course, these feeds are valuable and must be fed if the chicks are hatched early, or when they are reared on a small lot, but it has been my experience that pullets of the American breeds hatched before the first of May and given proper treatment and plenty of range will be sufficiently developed to begin laying before cold weather comes. The Mediterranean breeds hatched two or three weeks later will be ready for laying late in the fall. When one desires earlier hatches, and has the equipment necessary for successful brooding during the cold weather, it will pay to hatch early chicks, but it is a mistake for the average farmer to attempt to imitate the experienced poultryman, unless he has adequate equipment and a fair knowledge of mechanical brooding. It is not the number of chicks we can hatch out during the proper season so much as it is the number that we can rear and develop into efficient producers before winter comes.

Care must be taken to keep coops, brooders, mother hens and all of the equipment clean. The chicks must be examined closely at short intervals for lice, and if they are found, or there

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are any signs of their work, the chicks should be greased on top of the head and under the wings with melted lard twice a week until the pests are destroyed. The coops and brooders should be disinfected once a week with crude carbolic acid or some good commercial disinfectant, to keep away disease germs.

W. KELLY,

PRESERVING EGGS.

March, April, May and June are the months when the hens of the country produce about 50 per cent of the lay of the whole year. These are the months, also, when the thrifty housewife, who has her own hens, or who can draw upon the surplus supply of a nearby neighbor, puts away in waterglass, or limewater, eggs for next autumn and winter. To ensure success, care must be exercised in this operation. The following directions are from the United States Department of Agriculture:

In the first place, the eggs must be fresh, preferably not more thn two or three days old. This is the reason why it is much more satisfactory to put away eggs produced in one's own chicken yard.

Infertile eggs are best if they can be obtained; so, after the hatching, exclude roosters from the flock and kill them for table as needed.

The shells must be clean. Washing an egg with a soiled shell lessens its keeping quality. The protective gelatinous covering over the shell is removed by water, and when this is gone, the egg spoils more rapidly.

The shells also must be free from even the tiniest crack. One cracked egg will spoil a large number of sound eggs when packed in waterglass.

Earthenware crocks are good containers. The crocks must be clean and sound. Scald them and let them cool completely before use. A crock holding six gallons will accomodate 18 dozens of eggs and about 22 pints of solution. Too large crocks are not desirable, since they increase the liability of breaking some of the eggs and spoiling the entire batch.

It must be remembered that the eggs on the bottom crack first, and that those in the bottom of the crocks are the last to be removed for use. Eggs can be put up in smaller crocks and the eggs put in the crock first should be used first in the household.

Waterglass Method.

"Waterglass" is known to the chemist as sodium silicate. It can be purchased by the quart from druggists or poultry supply men. It is a pale yellow, odorless, syrupy liquid. It is diluted in the proportion of one part of silicate to nine parts of distilled water, rain water, or other water. In any case, the water should be boiled and then allowed to cool. Half fill the vessel with this solution and place the eggs in it, being careful not to crack them. The eggs can be added a few at a time until the container is filled. Be sure to keep about two inches of waterglass above the eggs. Cover the crock, and place it in the coolest place available from which the crock will not have to be moved. Inspect the crock from time to time, and replace any water that has evaporated with cool boiled water.

How to Use the Preserved Eggs

When the eggs are to be used, remove them as desired, rinse in clean cold water, and use immediately.

Eggs preserved in waterglass can be used for soft boiling or poaching up to November. Before boiling such eggs, prick a tiny hole in the large end of the shell with a needle, to keep them from cracking. They are satisfactory for frying until about December. From that time until the end of the usual storage period—that is, until March—they can be used for omelettes, scrambled eggs, custards, cakes and general cookery. As the eggs age, the white becomes thinner and is harder to beat. The yolk membrane becomes more delicate and it is correspondingly difficult to separate the whites from the yolks. Sometimes the white of the egg is tinged pink after very long keeping in waterglass. This is due, probably, to a little iron which is in the sodium silicate, but which apparently does not injure the egg for food purposes.

Limewater Method.

Limewater is also satisfactory for preserving eggs and is slightly less expensive than waterglass. A solution is made by placing two or three pounds of unslaked lime in five gallons of water, which has been boiled and allowed to cool, and allowing the mixture to stand until the lime settles and the liquid is clear. The eggs should be placed in a clean earthenware jar or other suitable vessel and covered to a depth of two inches with the liquid. Remove the eggs as desired, rinse in clean, cold water, and use immediately.

—Maine Farmer

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DUCK GROWER GIVE HINTS.

I find it easier and less expense to raise ducks than chickens, and they do lay nice eggs. They are not bothered with lice or mites and do not get sick. In a small yard inclosed with poultry wire, I can raise 95 per cent. of all ducks hatched. Rats are the only thing that has killed any of mine. As soon as I found out how well the rats liked the young ducks, I fixed my roosting coops so they could not get in. Take four planks a foot wide of any length and fasten them securely at corners, making a door in one side. Then cover both top and bottom with fine wire netting, but do not cover with boards. In bad weather I throw an old sack over one end.

I feed a mixture of one cup corn meal, one cottonseed meal and three wheat bran, moistened with water. Then I sprinkle sand over the top. They like this and grow well. I feed the same to laying ducks. For the first two weeks I do not let the little ducks get in the water, but after this I give them deeper water. They do not need water for swimming. Keep plenty of sand around their drinking place, and have water deep enough to dip their heads under, as they sometimes get food in their eyes. For this reason I do not give milk to drink.

If there is no grass in their runs, cut up lettuce leaves and onion tops in their food. If they are without water all night, they will drink too much in the morning and have "colic" unless you give food first. Always let them have water to wash down the food.

I begin to set eggs in March and continue until July. They do not hatch so well after the weather gets hot and dry. The eggs need to be wiped off with a warm, damp cloth every other day for the last two weeks of incubation. It takes four weeks for them to hatch.

A WAR MEASURE.

Poultry keeping at all times is a pleasant and profitable industry. Just now it might be looked upon as something more—a patriotic duty—a war measure. More eggs are required by the Motherland. While she is compelled to exclude some imports for a time, she welcomes eggs. Poultry pays. In spite of high prices, eggs are a necessity. Larger flocks and increased production could be brought about without undue expense. Poultry keeping is an industry that can be carried on with the lighter kind of labour. It can be made a success when only the older people or the younger members of the family are available for the work. Poultry thrives in every climate under almost any condition; little expense is required to start; returns come quickly, and every month should see some cash receipts.

In all probability there are not as many breeding hens in Canada this spring as there were a year ago. Because of the high price of feed, too many layers and breeders were sold last fall. For the same reason, many hens are not in prime laying condition this spring. To meet the situation as many eggs as possible should be hatched. Every breeder who has good fertile eggs for sale should make an effort to place them in the hands of those who will have them hatched rather than send them to market.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

MAY

By Alexander MLauchlan

The cataract's horn
Has awakened the morn,
Her tresses are dripping with dew;
Oh, hush thee and hark!
'Tis her herald the lark
That is singing afar in the blue:
Its happy heart's rushing,
In strains mildly gushing,
That reach to the revelling earth,
And sink through the deeps
Of the soul, till it leaps
Into raptures far deeper than mirth.

All Nature's in keeping,
The live streams are leaping,
And laughing in gladness along;
The great hills are heaving,
The dark clouds are leaving,
The valleys have burst into song.
We'll range through the dells
Of the bonnie blue-bells,
And sing with the streams on their way;
We'll lie in the shades
Of the flower-covered glades,
And hear what the primroses say.

Oh, crown me with flowers
'Neath the green spreading bowers,
With the gems and the jewels May brings;
In the light of her eyes,
And the depth of her dyes,
We'll smile at the purple of kings!
We'll throw off our years,
With their sorrows and tears,
And time will not number the hours
We'll spend in the woods,
Where no sorrow intrudes,
With the streams, and the birds, and the flowers.

Had Fourteen Fits In One Afternoon

BUT IS MADE WELL AND STRONG BY DODD'S KIDNEY PILLS

Mr. R. J. Thompson, of Uxbridge, Tells the Story of His Terrible Trouble and Almost Miraculous Cure.

Uxbridge, Ont., May 7th, (Special.)—Mr. R. J. Thompson, living near here, had fourteen convulsions in one afternoon. The doctors did not think he could live. To-day he is well and strong. He says Dodd's Kidney Pills did it. But let him tell his own story:

"I am delighted with Dodd's Kidney Pills," Mr. Thompson states. "I have only taken eleven boxes and I feel like myself again.

"I was taken ill very suddenly. I ate my dinner and went to take a man home. I just got about three-quarters of a mile when I was taken with a convulsion fit. I had fourteen that afternoon and the third day I had nine more.

"The doctors said I could not live and if I did I would never be able to do anything again as I had hronic Bright's Disease. But, thank God, I am doing my own work once again, by the use of Dodd's Kidney Pills."

Bright's Disease is the most advanced stage of kidney disease. It can be avoided if the earlier stages of kidney trouble are remedied by the use of Dodd's Kidney Pills.

SAMPLE PROGRAMMES FOR WOMEN'S INSTITUTES

June—Roll Call. Membership fee for ensuing year paid to the secretary-treasurer.

Address by President.

Secretary's Report.

Anniversary Tea.

July—Roll Call. One way I have benefited by last year's Institute meetings.

"Health and good humor are to the human body like sunshine to vegetation."

Paper: Health Hints for Summer.

August—Roll Call. Ways to Entertain Children.

"Association molds the Character."

Paper: Children's Environments.

Final arrangements for Vegetable Fair in September.

September—Roll Call. An Economy for War Time.

"Women are the books, the arts, the academies, that show, contain and nourish all the world."

Paper: Women's Responsibilities of To-day.

Winners of prizes for best grown vegetables at Fair announced and prizes awarded.

October—Roll Call. One of New Brunswick's manufactures.

"Know most of the rooms of thy native country,
Before thou goest over the threshold thereof."

Paper: The Beauties of Our Province.

November—Roll Call. One way to Conserve Our Strength.

"Evening meditation is less important than morning preparation.
Well begun, is half done."

Paper: The Daily Meals and How to Plan Them.

December—Roll Call. Either display or tell how to make a Simple Christmas Gift.

Paper: Christmas in War Time.

January—Roll Call. One preventative against taking cold or a Remedy for a cold.

"He was a man, take him for all in all,
I ne'er shall look upon his like again."

Paper: Our Empire's Great Statesmen.

February—Roll Call. Origin and Meaning of Culinary Terms.

"Courage, heerfulness and a desire to worp depend mostly upon good nutrition."

Paper: The Relation of Nutrition to Health.

March—Roll Call. How the past winter's short course has benefited me.

"The greatest of all obstacles to social progress is lack of directive intelligence, of skill in management."

Paper: Civic and Household Spring Cleaning.

April—Roll Call. One inexpensive way to remodel the house.

"A room hung with pictures is a room hung with thoughts."

Paper: Suitable Pictures for the Home and Their Arrangement.

May—Roll Call. A Parliamentary Procedure.

"Ignorance of the law excuseth no man."

Paper: The Legal Rights of Canadian Women."

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OUR CHILDREN'S TABLE MANNERS

Table manners, like most of the conventions are not arbitrary rule they are based upon common sense. Back of every branch of table etiquette lies either a practical or an esthetic objection. A cup with a spoon left in it is apt to tip over. Biting one's bread instead of breaking it is suggestive of animals and therefore not pleasant to see.

How many parents teach the children not to smack their lips, not to lean their elbows on the table, not to be noisy at meals, and let table manners go at that. And when those children grow up, they learn the conventions at the cost of painful embarrassment and agonized self-consciousness.

A child of two is not too young to acquire the first principles of table etiquete. Explain to him the common sense of everything he must and must not do, and if, for one reason or another you allow him to break the rule, be sure that he understands what the proper thing really is.

All our teaching will be of no avail if we do not set him a good example. Grown-ups fall too easily into careless habits, secure in their knowledge that they know how to eat when they "go out!" But the youngster carries his bad home habits with him.

There are children who seem absolutely incapable of keeping their fronts clean, without the aid of a napkin ticked in the collar or tied around the neck. If such be the case the mother is only courting trouble if she insists that he spread the napkin in his lap. Tell him that he must wear it "baby fashion" until he has learned not to spill his food; as soon as he can eat nicely, he may spread the napkin, folded once, on his lap, in the proper grown-up way. This furnishes him an incentive for good manners.

Children fall into the habit of cutting up their meat into small pieces before beginning to eat, because, when they are very small, this is done for them by their parents. But as soon as a child can manage his knife, let him learn to cut off only one piece at a time, "as mother and father do." It will save him embarrassment in later years.

In the same way, a child learns to butter a whole slice of bread and bite into it. When mother stops buttering it for him, he imitates her method. Bread should be broken, not bitten off, into mouthfuls, each morsel buttered separately. This is not difficult for children to learn. It is based on good sense—for a bite into a buttered slice is likely to leave greasy traces around the mouth.

In a large family of children, where there is much passing of plates for a "second help" from one to another, it is often the better part of valor to allow the owner of the plate to hold his knife and fork in his hand. A wise mother, however, will begin early to teach youngsters that the proper way is to leave the knife and fork resting on the plate, for well mannered people can supposedly pass the plate without accident. Let the kiddies look upon this, and other points, as a grown up privilege to which they may aspire, and they will need little urging to do their best.

When a knife or fork is not in use, it should rest wholly on the plate. At the end of the meal the knife and fork should be placed together, the ends touching on the plate, but not crossed.

The child should not be allowed to leave the spoon in his cup, for this is a bad habit easy to acquire. Remember that everything you can drill into him now will save him future embarrassment. If for lack of patience, you have failed to teach him good manners. Be sure that he will blame you at some later date.

Eating soup noiselessly is easier when the liquid is taken from the side of the spoon than when sipped from the end. Also, it is not good manners to place the whole spoon in the mouth, which the child is likely to do when eating from the tip.

A child should learn not to pat his food, or to move it about unnecessarily on the plate, for this is also a difficult habit to break, and one annoying to others at the table.

"I DON'T SUFFER ANY MORE"

"Feel Like a New Person," says Mrs. Hamilton.

New Castle, Ind.—"From the time I was eleven years old until I was seventeen I suffered each month so I had to be in bed. I had headache, backache and such pains I would cramp double every month. I did not know what it was to be easy a minute. My health was all run down and the doctors did not do me any good. A neighbor told my mother about Lydia E. Pinkham's Vegetable Compound and I took it, and now I feel like a new person. I don't suffer any more and I am regular every month."—Mrs. HAZEL HAMILTON, 822 South 15th St.

When a remedy has lived for forty years, steadily growing in popularity and influence, and thousands upon thousands of women declare they owe their health to it, is it not reasonable to believe that it is an article of great merit?

If you want special advice write to Lydia E. Pinkham Medicine Co. (confidential), Lynn, Mass. Your letter will be opened, read and answered by a woman and held in strict confidence.

At many tables, chicken bones, chops, etc., are taken up in the hands. This is quite permissable at a family meal, but it is well to train the youngsters into asking permission to "take it up in my hands" so that he may regard it as the exception, not the rule.

A child should learn to cut lettuce with his fork, without aid of his knife. He should learn not to scrape the bottom of a cup, not to clash his spoon or fork against a plate in an effort to clean up every vestige of some favorite dish. If he must use a "pusher", let it be a piece of bread, not his fingers. He should avoid the habit of suspending a fork or spoonful in mid air while he talks. When food is taken from the plate it should be carried directly to the mouth. At the close of the meal he should fold his napkin and ask to be excused.—The Woman's Magazine.

WAR TIME RECIPES

Left Overs

Every household at some time has remaining from the usual meals, portions of fruits, vegetables, fish, meat, bread, cake, etc., which if wisely used serve to decrease the cost of living, from such odd bits may be made scallops, salads, soups, desserts, etc.

We should each one learn to combine acceptably whatever material we have on hand, taking care to make the dish look attractive. Skill in using up left overs provides many a dainty and saves many a dollar.

The following recipes were used at the Women's Institute Home Economics Courses.

Cream of Pea Soup.—Liquid from one can of peas. 1 small onion.

Cook liquid and onion. Melt 2 tbsp. butter, add 1½ tbsp. flour, salt and pepper. Add liquid to this, cook. Before serving add 1 pt. of scalded milk and a shake of celery salt.

Mulligatawny Hash.—2 medium onions, 3 eggs, 4 tbsp. butter, 6 or 8 potatoes, salt and pepper.

Fry onions in butter, add eggs and seasonings, cook, add sliced potato. Heat thoroughly. Serve as a main supper dish.

Potato and Cheese Scallop.—2 c. riced potatoes, cayenne, 1-3 c. grated cheese, few gratings nutmeg, 2 tbsp. butter, ½ c. milk, salt, 1 egg.

Mix potatoes, cheese and butter and beat until smooth; add seasonings, milk and egg. Place in scallop, cover with crumbs and bake.

Potato Puffs.—Season 2 c. potatoes with salt, pepper, celery salt. Add beaten yolk of one egg and milk, so as to roll on floured board. Roll ¼ inch thick, cut in squares. Place 1 tbsp. well seasoned, chopped cold meat on each square, fold and press edges together. Fry in deep or shallow fat.

Baked Meat and Potatoes.—Melt 1 tbsp. butter, add 1 tbsp. onion and 1 tbsp. flour, mix well, add 2-3 c. milk or water. Season with salt and pepper and allow to heat, then add 1 c. cold meat finely chopped. Heat thoroughly and turn into well buttered baking dish. Spread hot or cold cooked potatoes over it and cook for 15 or 20 min. until potatoes are brown.

Casserole of Rice and Meat.—2 c. chopped, cooked meat, 1 tbsp. parsley, 1 tsp. salt, 1 egg, pepper, ¼ c. fine bread crumbs, 1 tsp. onion, 4 c. cooked rice.

Season the meat, mix with crumbs and beaten egg and add enough meat stock or boiling water to make mixture pack easily. Line a greased mould with 3 c. cooked rice, fill with meat, cover with the remainder of rice, cover tightly and steam 45 min. Serve with tomato sauce.

Fish Loaf.—2 c. cold flaked fish, 2 eggs, seasonings to taste, (curry pepper, Worcestershire sauce), 1 c. soft bread crumbs.

Add crumbs to fish, stir in eggs and seasonings. Place in greased mould and steam 30 min. Serve with sauce.

Chocolate Oatmeal Pudding.—1½ c. oatmeal, cooked, 1-3 c. sugar, 2 c. scalded milk, salt, 1 egg, 2 tbsp. cocoa, 1 tsp. vanilla.

Beat egg, add sugar, cocoa and salt mixed. Add scalded milk to this, then oatmeal and flavoring. Turn into buttered pudding dish, place in pan

A New Dress For Your Home

Cover the scars of wear and tear on walls and floors and furniture.

A wall re-tinted—a floor varnished—a hall painted—a chair or dining room set re-stained—the whole house made fresh and bright, spic and span. There are

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of hot water and bake in moderate oven 1 hour. Serve with sugar and cream or butter and sugar.

Chocolate Cream of Wheat.—2 .c. cooked cream of wheat, 1 c. milk, 2 tbsp. cocoa, ¼ c. sugar.

Mix cocoa and sugar, add to milk, when heated add cream of wheat and cook in double boiler until mixture thickens. Mould. Serve with cream.

THINGS ESSENTIAL TO HAPPY HOMES

It is said that home, mother and heaven are the three sweetest words in the English language, and home is placed first for it really embodies both mother and heaven. What is home without a mother and what is heaven but our future home?

In the well organized and happy home there are several things essential. First, there must be harmony. The parents may not always see things alike, for two people seldom do, but each parent must be willing to compromise. If each determines to have his or her way, a discord arises and dissatisfied feelings are the result. The children of the household soon catch the discontented strain and will unconsciously seek a more congenial atmosphere; the father does not find pleasure in remaining with his family in the evenings and the mother loses her influence as the guardian angel.

There must be co-operation. Each member of the family must enter heartily into the plans, the pleasures and troubles of the others. The father must take time to enter into the plans and pastimes of his boys. He must even take part in their games and make their friends his friends, if he wishes to keep their love and respect which is so precious. The sons of such a father will not prefer "the boys" to an evening around the family table.

Many mothers become so absorbed in building the material part of the home that they allow their confiding young daughters to drift entirely away from the influence of the home. Every mother must cultivate the confidence of her daughter. If a girl does not find confidence in her mother she will find it somewhere outside of the home, often to a mother's sorrow. There must be love in every true home. In fact love is the keynote to all the other essentials. The home must be organized and regulated by it.

The literature that enters the home must be carefully watched. There is nothing that so shapes the character and destiny of growing children more than the literature they read. If a parent has to deny the household other things in order to place good reading in his home, he must do so. It is well guided economy.

The amusements of the home must be helpful and refining. If possible there must be music, as there is no amusement more uplifting.

It may be only a humbled little cottage nestled under the trees by the roadside, but if the father and mother are patient, kind, gentle and forgiving it is a sweet home. There is many a stern-faced man today who is battling with a nation's serious problems, but who when he would rest allows his mind to wander back to where a tired but sweet-faced mother sang "In the Sweet Bye and Bye." And in the twilight she taught his baby lips to lisp the words "Now I lay me down to sleep,". then tucked the patchwork quilt gently around him as she knelt by his trundle bed.

FROM ALL FABRICS REMOVING STAINS

To remove stains successfully from all kinds of fabrics without injuring the fabrics themselves, it is necessary to know that animal fibres are readily destroyed by alkalies, while vegetable fibres are attacked by all but the weakest acids, but are not affected by alkalies.

To remove stains from cotton and linen then it is quite safe to use the rather strongly alkaline Javelle water. This is prepared by placing one-pound of washing soda in a porcelain-lined kettle and adding one quart of boiling water. To this add the clear liquid which separates off when one-half pound of chloride of lime is stirred into two quarts of cold water and the mixture allowed to settle. This solution should be bottled and kept in a dark place. To remove stains, dilute the Javelle water with an equal volume of hot water, and soak the stain in the solution until it disappears.

Probably the best reagent for removing stains from silk and wool is three per cent. hydrogen peroxide to which is added four volumes of water and one volume of ammonia. The stain should be soaked in this mixture for a few minutes, then dipped in a ten per cent. solution of sodium bisulphide. If the stain is persistent, it may be necessary to repeat this treatment several times, exposing the fabric to the sun and air between treatments.

Bleaching solutions can be used with white goods only, as any reagent which will remove stains will also remove colors.

RECOGNITION OF A CHILD'S WILL

Mothers, be sure that your child has a will of his own, and is not merely day after day following the dictates of yours. Has he an interest in life all his own, individual, personal to himself, different entirely from the interest that you have; or is he merely a little replica of yourself, thinking as you think, doing as you do or command, never making a choice for himself? Has he strong likes and dislikes of his own, and the strong desire and determination to cling to the thing he believes to be of greater value; or have you so discouraged him in choosing and clinging to his choice that he is ready to give in at your word, or relinquish it at a frown or a warning word from you? Perhaps you think it is a good trait that he is gentle and yielding, that he lets you decide for him, and never opposes his will to your own; but does it not occur to you that later this tendency to yield and to let others think for him may be a danger and a menace to his life? So long as you do his thinking for him, perhaps he is safe, but what about the day when he will yield weakly to the wishes and opinions of others who are perhaps not trustworthy? You will blame him then for having so little will of his own; yet the blame after all will rest upon you who taught him in his early days that it was a virtue to let others think for him, instead of helping him to think and decide earnestly for himself.

One of the most practical ways of developing a well-balanced will in a child is to begin as early as possible to give him a choice, to help him to make a wise choice, and then to help him stick to that choice. He should be taught as early as possible that he is here to be controlled by his elders only until he can learn self-control. He must be taught to think of self-control not as a gloomy thing, but as a joyous thing rather, and the only true freedom; a freedom to which it is his privilege to attain.

THE REPAIRING OF TORN WALL PAPER

House cleaning time brings with it many unthinkable tasks for the housemother. She must make herself into scrub-woman, painter, decorator, etc., but it may become a pleasure to repair even the wall paper. This, we are told, is a simple matter, though we get the impression that we have a difficult task before us, and feel nervous when thinking of what is to be done.. It does look very bad to see the wall paper torn, whether it is little or much. And if this is the case in more than one room, and the rest of the paper is good it would be a great saving to care for it before the place gets beyond care

A professional decorator has said that mending paper may be done with little expense and trouble if done in the right way, and advises this: "A very thin steel knife must be inserted very carefully under the torn part to loosen the entire sheet, or the portion that is to be pasted. The paper and dirt must be scraped off the wall, then the paste is taken from the paper with a soft cloth. The surfaces are then ready for the first coat of paste which is made from three tablespoonfuls of flour stirred smooth in cold water. The boiling water is then added while the flour is being stirred. After this has been allowed to cool it must be applied to both paper and wall and left to stand for ten or fifteen minutes. Apply the second coat to the wall and paper, then press both surfaces together and pat on with a dry, soft cloth. Should air bubbles make an appearance, work them carefully to the edge and you will have a perfectly smooth surface.

CELLARS SHOULD BE KEPT CLEAN

The cellar as a storehouse for canned goods and vegetables should be kept scrupulously clean, as authorities state that disease may occur because of the impure air which gathers in some cellars. The cellar that contains impure odors should be thoroughly aired regularly. The floor should be swept and mopped, and all cobwebs brushed down from the walls and ceiling.

One method of removing odors in a cellar is to fill a bowl with lumps of quicklime, over which a few grains of dry copperas have been scattered. Slack the lime thoroughly, and the steam arising from the mixture will remove bad odors in the cellar. Powdered borax is a good disinfectant to scatter around the floor and corners of a damp cellar. Chloride of lime is an excellent deodorizer, and an inexpensive substance to use for purifying the air in damp, ill-smelling places. Charcoal has great powers of absorption, and a few bags hung up in the cellar will act as a deodorizer and absorb moisture. Powdered slack lime will also prevent the musty and mouldy odors which are prevalent in many damp cellars.

Because of the cellar being out of sight the condition there may become very bad before demanding attention. Such conditions should not be tolerated, especially when the room is used

What Will I Look Like in Ten Years from Now?

What woman hasn't asked herself this question? How often have you worried about it? You have heard it said that "beauty is only skin deep". Don't believe it. The key to good looks is health, and the first essential to good health is to keep the digestive organs in perfect working order. For this purpose nothing is so helpful as Chamberlain's Tablets. An occasional dose will prevent or relieve constipation, indigestion, biliousness, sick headache, and all their train of attendant evils.

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WHEN you buy FROST FENCE you have the privilege of going to your dealer and examining the fence before you pay out any good money for it. This method is much more satisfactory to you than ordering by mail, or "buying in the dark."

LOOK FROST FENCE over before you decide to take it—see the rigid manner in which the **Frost Lock** grips the line wires and stays but does not kink or weaken them. You will see that the entire fence is made from full No. 9 gauge wire—evenly and heavily galvanized.

SURELY you will appreciate the value of being able to examine fence thoroughly before buying—this is the **Frost** method of doing business.

COMPLETE fencing supplies—We make all styles of farm fence also lawn fence both iron and wire; gates all styles and sizes; coiled and soft wire; galvanized and bright wire, hay wire, bale ties and staples. Our complete wire output is drawn, galvanized, and made into finished materials in our own wire mills at Hamilton.

SEND FOR OUR NEW CATALOGUE TO-DAY

FROST STEEL AND WIRE FENCE CO., LIMITED,
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as a place for storing food products. A few hours' time can be very profitable used in protecting the food stored in the cellar as it undoubtedly bears a great influence on the general health of the family.

HOW TO REPEL THE CLOTH MOTH.

Most people are familiar with the injury done to woolen fabrics and furs by the cloth moth. This insect does not confine itself to the house-hold pest, but it can also be found in clothing and dry goods stores. The adult is a small buff-colored moth about three-fourths of an inch in length and is harmless, all the depredation being confined to the larvae stage.

The larvae are case-borers and are never seen away from their movable clases. In appearance these cases appear as matted masses of wool having the same general color of the substances from which they are constructed, hence they are somewhat difficult to detect.

The adults appear from July to September and deposit their eggs upon some woolen fabric or furs for the succeeding generation.

Unfortunately, there is no effective method of preventing the damage done by these insects. Consequently in infested quarters frequent inspections are demanded wherever these insects become troublesome. It is generally assumed that the various repellants, such as tobacco, camphor, moth-balls, etc., will free garments of this pest. The above mentioned repellants are useful inasmuch as they will prevent the moth from ovipositing where they are placed, but they do not prevent the developments of eggs or larvae on infested goods. The most effective method for this pest is to thoroughly sun and brush the cloth desired to be laid away. Then place in a tight box or trunk with a goodly supply of one of the above mentioned repellants. This will prevent reinfestation.

TO BRIGHTEN CARPETS AND RUGS

There is nothing that mars the appearance of a living room more than a soiled, faded rug or carpet on the floor, and yet the house-wife does not always feel able financially to replace the old rug or carpet with a new one.

I find a solution made of soap, water, and salts of tarter, which may be secured at any drug store, makes an excellent cleaning agent for soiled carpets or rugs. Shave one-half pound of soap in one quart of water and boil until dissolved. Then add to this mixture one gallon of hot water and one ounce of salts of tartar, and mix thoroughly. Apply the mixture to the carpet or rug with a stiff brush, scrubbing briskly one breadth at a time. When the carpet is scrubbed sufficiently with the solution, wipe it with a cloth wrung out of cold water. If there is much green in the carpet, add one cup of vinegar to the solution and it will preserve the color. This quantity will clean a large carpet.

Rugs and carpets may be freshened by wiping them with a cloth wrung out of warm water, ammonia, and kerosene. Use one teaspoonful of ammonia and one table-spoon of kerosene to one gallon of warm water. Also the colors in rugs and carpets may be brightened by using a solution of alum water. Apply the solution to the carpet or rug with a cloth, and wipe thoroughly. If the colors are faded they may be improved by touching up all faded designs with commercial dye, or a mixture of oil paint and gasoline. Use a small brush when applying the color.—

Senator—Don't you think that the country should spring to arms?

Citizen—Not until it arms to spring.

BRONCHITIS
WAS SO BAD
Coughed Every Few Minutes.
DR. WOOD'S NORWAY PINE SYRUP
CURED HER.

Bronchitis starts with a short, painful, dry cough, accompanied with a rapid wheezing, and a feeling of oppression or tightness through the chest. At first the expectoration is a light color but as the trouble progresses the phlegm arising from the bronchial tubes becomes of a yellowish or greenish color, and is very often of a stringy nature.

Bronchitis should never be neglected. If it is some serious lung trouble will undoubtedly follow.

Get rid of it by using Dr. Wood's Norway Pine Syrup. This well-known remedy has been on the market for the past 25 years.

It cures where others fail.

Mrs. Geo. Lotton, Uxbridge, Ont., writes: "I have had bronchitis so bad I could not lie down at night; and had to cough every few minutes to get my breath. I had a doctor out to see me, but his medicine seemed to do me no good. I sent to the druggist for some good cough mixture, and got Dr. Wood's Norway Pine Syrup. One bottle helped me wonderfully. I stopped coughing, and could lie down, and rest well at night. I cannot praise it too much."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper; 3 pine trees the trade mark; price 25c. and 50c.

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TEACH CHILDREN ECONOMICAL HABITS IN CHILDHOOD DAYS

Many centuries ago one who knew and one who had had a wide experience in connection with the problems of life and since that time has been looked upon as the wisest man of all generations said, "Bring up a child in the way he should go and when he is old he will not depart from it." No law or rule that can be broken will hold good in every instance, but that fact does not prove the rule to be wrong; where the contrary is the exception the rule soon becomes established. All educators, institutions of learning, churches and societies unite their evidence in support of the truth of this general rule. The reason is not far to seek. The mind of the child is in that plastic condition which receives impressions easily. It is much like the tender young shoot that in the early days of its growth can be twisted and turned to conform to almost any desired shape, but which soon becomes hardened and impossible of change.

The tendency of the child's mind is to run to extremes. One will go in one direction and another in entirely the opposite; In other words they are not well balanced. Some children are nervous and afraid, others are bold and venturesome even to recklessness; others are timid, modest and quiet, while many are boisterous, coarse and rude; and again there are those who are miserly and selfish while their mates are generous and would give away all they had to others. All of these may be made to conserve useful ends if the training of the child is such that extremes will be guarded against in any direction. This may be done by adopting such practises as are wise and useful and by developing these other undesirable characteristics naturally become weakened and assert themselves only when needed to round out a full and well balanced character.

In the matter of instilling habits of economy into the child's life, great care should be exercised that the other extreme be not reached. It is no more desirable that a child adopt extreme and miserly habits than that they should be somewhat prodigal with their money or even spendthrifts so long as it does not induce vicious habits as the former is likely to dwarf the character and lead to even more contemptuous vices than the latter.

Since as has been noticed the mind of a child is plastic and open to impressions it would seem to be the part of wisdom for parents and guardians of children to put into the hands of a child a little money each week and then teach them the proper use of it.

There are many claims upon the individual and these should be taught to the child. There are the claims of the church, which may or may not include that of charity, benevolent institutions, etc. A part may be allowed for personal use such as clothing, a small amount for spending money and a part laid away regularly for a rainy day. For the latter purpose, no doubt a savings bank account will be the best plan, for this will not only be of real interest to the boy or girl but at the same time will have the effect of educating them in modern business methods which will be useful to them in later experiences.

Just what amount should be put into the hands of a child will depend upon circumstances and the age of the boy or girl. Up to a certain age they will be wholly dependent, but as soon as they are able to earn something they had better be paid for certain services, but not all, as they must realize their duty in the family circle and this must be freely bestowed without money and without price. When this time comes they should undertake the purchase of their own clothing under advice of the parents. Good judgment is greatly needed in the amount allowed a boy or girl for spending money. Supplying either with all they want is a dangerous proceeding and many a one has formed bad habits induced from this cause.

If careful practices are employed in the handling of money by children there seems to be no good reason why the words of wisdom previously quoted should not apply in this particular as well as in any other phase of child education and the development of economical habits proceed along worthy lines without the danger of leading them to extremes in any way that would be undesirable and which would greatly mar their usefulness as Canadian citizens.

FRESH FRAGRANT FLAVORFUL

You'll Like the Flavor

EQUIPPING BED IN SICK ROOM

The bed in the sick-room should be somewhat higher than the beds in ordinary use, thus, if much treatment has to be administered, saving the backs of the nurses and doctors.

A low bed may be elevated by procuring fro ma carpenter four blocks of wood sufficiently thick to make the bed the required height. The centre of each block should be hollowed. Having removed the casters, place the legs of the bed in the hollows.

The iron-frame bed, three feet wide, six feet six inches long, with high head-and-foot pieces (the latter to be used as a frame in the construction of croup-tents, in making cradles for operative cases, or in arranging for vapor baths), with a woven-wire mattress, on which should be one firm hair mattress, is the bed par excellence for the sick room.

The bed should be so placed as to be easy of access from at least three sides, with the light at the back. The light should be shaded at night by a square of bristol-board, fastened by a cord, so as to completely shield the eyes of the patient. If there is a mirror in the room, see that the patient is not getting a reflection from it.

If available, a quilted protector should be placed over the mattress. Cover this proctector with a large sheet, which should be tightly drawn and tucked well under on every side. Across the middle of the bed place a rubber sheet, one yard in width and long enough to tuck under the mattress. Over the rubber sheet place an old sheet, so folded that the hem comes at the lower edge, and this, too, must be drawn tightly and tucked under on both sides.

Put on the upper sheet, tucking it in well at the foot, being careful to have the wrong side of the hem up and allowing enough extra length to turn well over the blankets, which should be soft and of light weight.

Should the patient sit up while the bed is being made, do not, when it is in readiness for him, toss the upper covering carelessly over the footboard, but fold the sheet and blanket accordion-wise nearly to the foot, or, in the case of an ether patient, quite to one side (the folds in the latter case being lengthwise); then, when the patient is placed in bed, the clothing may be drawn carefully over him.

A weakened patient will not infrequently be bathed in a profuse perspiration after sitting up for a while, and a brisk rubbing, with a warm Turkish towel; will be necessary.

A word about hot-water bottles: Too great stress cannot be laid on the

RELIEF AT LAST

I want to help you if you are suffering from bleeding, itching, blind or protruding Piles. I can tell you how, in your own home and without anyone's assistance, you can apply the best of all treatments.

PILES TREATED AT HOME

I promise to send you a FREE trial of the new absorption treatment, and references from your own locality if you will but write and ask. I assure you of immediate relief. Send no money, but tell others of this offer.
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Windsor, Ont.

I KNOW A WOMAN'S SUFFERINGS

I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight aud dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

MRS. M. SUMMERS, Box 309

Read My FREE Offer:

To Mothers of Daughters, I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

Windsor, Ontario

necessity for protecting the patient from burns. The bottles should never be placed close to the body of an etherized or helpless patient; and, in any event, they should be well covered and carefully watched.

When the patient is compelled to lie on his back, a large pillow placed under his flexed knees will rest him wonderfully.

When he is turned on his side, very likely his knees will interfert, the one with the other, and a small pillow placed between them will be a comfort.

A pillow of excelsior stuffing makes an excellent support for a patient who is turned on the side, but who lacks the strength to remain in that position unless firmly supported.

While the patient is on the side, seize the opportunity to gently massage hips and back. Use alcohol, as it serves to harden and tone the tissues. Dust such portions freely with powder, and be ever on the watch for a bed-sore; for if one is ever started, it is very difficult to eradicate it.

HOW TO TREAT CORNS, BUNIONS AND OTHER AILMENTS OF THE FEET

One of the first requisites for mother's comfort is to be properly shod. The house shoe should be of soft pliable material with low heels, capped with rubber. Much care must be exercised in the fit of shoes, as shoes too large or too small will either one cause corns. If corns should appear they may be removed by binding on a thin slice of lemon renewing when it begins to dry out; night and morning should suffice. Keep on till the corn can be removed; it may require two or three days' treatment. This remedy often cures a corn and always gives relief.

An old orn and bunion remedy was made by soaking bread crumbs in vinegar and binding on the affected toe. The same remedy is also excellent for frost-bitten feet. Rubbing corns and bunions with old of cedar wood will relieve pain and burning. When bunions are swollen and inflamed an occasional painting with tincture of iodine will alleviate the suffering. Pouring water as hot as can be borne from a height upon bunions will reduce the swelling of the joint. Borax or a generous amount of sea salt in a warm (not hot) foot bath are very beneficial to the feet, after which rub them well with a rough towel, dust well with talcum powder; slip on clean hose and a change of shoes and you will experience a satisfying sense of refreshment.

Feet that perspire exessively will be made more omfortable by adding a half teaspoonful of formalin (formaldehyde) to the foot bath. Do not try to relieve aching or burning feet by bathing in hot water; this makes them tender. Instead bathe them in lukewarm water, then throw cold water over them and rub perfectly dry with a rough towel.

Where one must stand for long periods, rugs will contribute much toward the comfort of the foot. Mother or anyone in fact should never slight the feet of proper care and shoeing, for ill-treated feet cause much discomfort and handicap one of worthwhile efficiency. It is advisable to have several pairs of shoes, as a change of shoes is a wonderful means of rest to tired feet. When the feet are very tired, from long continued standing or long walks, take off the shoes if possible, lie down and elevate the feet on several pillows, so the blood will not rush into them for a few minutes. You will find a few minutes, resting the feet this way, a great help to them.

When one finds that a wrinkle or hole in the stocking is causing discomfort the shoe should be taken off and the cause removed at once, instead of walking around in misery. A few minutes spent in making the feet comfortable will keep frowns away and help keep us cheerful. M. A. K.

"You waste your time painting pictures."

"You are wrong—I sell my pictures."

"Which fact convinces me you can sell anything. Why not take up insurance, or motors, or something with big money in it?"

Best Nerve Specialist in England Was Consulted

Nervous disorders frequently result from injury to the nerves in accidents or because of the shock to the system.

The writer of this letter was corralling a bunch of colts when his horse fell over a barbed-wire fence, and he was carried to the Royal Inland Hospital, Kamloops, B.C., in an unconscious condition, remaining in this state for three weeks.

Not being able to obtain restoration of the internal nerves which control the action of the digestive and other vital organs, he travelled to Europe and consulted England's greatest nerve specialist, Sir Victor Horsley. Relief was only temporary, in spite of many treatments used.

His letter gives the facts briefly, and tells how he was finally cured by using Dr. Chase's Nerve Food. Can you imagine any more severe test of this great nerve restorative ?

Mr. Henry F. Venn, Cefu Ranch, Malakwa, B.C., writes: "Dr. Chase's Nerve Food has restored my nervous system and given me new health. Having met with a severe accident seven years ago, from which I was unconscious, and which left my nerves in a very sore plight, I was treated by doctors galore, and consulted one of the greatest nerve specialists in England, but nothing seemed to do me much good. Hypophosphites and, in fact, all and every kind of nerve mixture in almost every form was used, but never with more than temporary benefit.

"But Dr. Chase's Nerve Food has acted very differently, for it has built up my nervous system until I feel like my old self again. If this medicine will do for others what it has done for me I shall not regret having written this letter. I have recommended the Nerve Food personally to many, and shall always esteem its great restorative value."

50 cents a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

537

DR. A. W. CHASE'S NERVE FOOD

IRON POTS

are made here in various sizes.

Our smallest holds one quart and the largest holds 60 gallons.

We also make Iron Tea-Kettles, Bean-Jars, Griddles, Frying-Pans, Pig-Troughs, Oat-Boxes, etc.

Correspondence and inspection invited.

THE SMITH FOUNDRY CO., Ltd., Fredericton, N. B.

PROPER FOOD FOR YOUNG CHILDREN

Food for children between three and six years of age, says Miss Caroline L. Hunt, scientific assistant of the Office of Home Economics, should be chosen with reference to their bodily needs. A little child who is carefully fed in accordance with his bodily needs receives every day at least one food from each of the following groups:

1. Milk and dishes made chiefly of milk (most important of the group as regards children's diet); meat, fish, poultry, eggs and meat substitutes.
2. Bread and other cereal foods.
3. Butter and other wholesome fats.
4. Vegetables and fruits.
5. Simple sweets.

Milk is the natural food of babies and the most important food for young children. A quart of milk a day is a good allowance for a child. The greater part of this is usually given as a drink or served on cereals or in the form of bread and milk. Milk may also be served on fruits that are not very acid (baked apples or pears, berries, and others), in soups, gravies, custard, junket, and other puddings and may be used in place of water in cooking cereals.

Good whole milk is desirable, but if a mother is obliged to choose between clean milk and rich milk, she had better take the clean milk. Best of all, of course, is clean whole milk, but if that can not be obtained it is better to use clean fresh skim milk than dirty or questionable whole milk. A quart of skim milk, even separator skim milk, contains about a third of a cupful of solid food, which is nearly all there was in the whole milk, except the butter fat. Compared with most other foods milk contains much lime but very little iron, Spinach and other green vegetables and egg yolks are, on the other hand, very rich in iron. This is one reason why combinations of egg yolks and milk and of vegetables and milk are mentioned so often as fit food for children.

Cereal foods of some sort are used by children practically all over the world. Bread is the commonest cereal food in this country, though cereal mushes are also very generally used. Well-baked bread and thoroughly cooked breakfast cereals are both good for children and with milk should make up a large part of the diet. Bread may take the place, to a certain extent, of cereal mushes or vice versa, but neither can take the place of milk, meat, fruits and vegetables.

Fat is an important part of the food of children . Butter, which consists of separated milk fat, and cream, which is rich in milk fat and also in the other nourishment substances of milk, are both wholesome. Salad oils of various kinds may be given to children in small amounts. Bacon or salt pork, cut very thin and carefully cooked, may be given occasionally, but thick pieces with much lean are not desirable.

Vegetables, an important but often a neglected part of a child's diet, should be served at least once a day, as they help to keep the bowels in good condition. They may be used as flavoring for soups and stews, or served with meat gravy. Young children may be given the young and tender parts of celery and lettuce, a satisfactory way of serving being in the form of sandwiches.

Fruits are also very important in the child's diet. They supply mild acids and are important for their flavor, laxative effects, and no doubt for other reasons also. The laxative effect is well recognized in the very general use of orange juice, prunes, and apples, Then too, the fruits, like vegetables, have mineral elements which the body requires.

Simple sweets—lump sugar, maple sugar, syrups, honey and plain candy —are a desirable part of the diet. Sweets should not be given between meals or during the first course of a meal. Careful mothers who forbid their children eating candy at odd times sometimes give one or two pieces of wholesome candy as a "treat" with dessert at dinner.

NOVEL METHOD TO LAUNDER CURTAINS

Laundering curtains is a dread to some women. Yet if gone about in the easiest way it is not such a task. Lace does not require a stretcher. In fact, it makes the job more tedious in my opinion. First shake off the loose dust as soon as the curtains are taken down. The fold lengthwise two or three times according to width. Now fold the other way loosely back and forth while holding the free end in the hands, so the result is a practically square parcel which can be easily handled by lifting the upper fold without disturbing the lengthwise folds, curtains each being folded as explained permits handling without danger of tearing as the strain when lifted does not come on any one spot.

Next put the curtains to soak one on top of the other, in warm soapy water. Let stand several hours, or over night, to loosen the dirt, then gently squeeze each one and remove to another warm suds, but do not disturb the folds. Change the water repeatedly until the fabric is clean. Bluing will be added to the last water, then starch lightly. Up to this point no wringing is needed. After starching, squeeze as dry as possible but do not wring, as a lace curtain is easily ruined in that way. Now comes the stretching, which is done on the floor. Sheets or papers may be laid down in some unused room for this, but take it from one who ventured, that no bad results will come to curtain or carpet if pinned directly to the floor covering. The curtains will dry rapidly and can be taken up in a short time. Pin straight by breadths of the carpet, stretching to the original measurement.

All things considered, this is the most satisfactory way of washing lace curtains. There is no danger of injury to the fabric when handled in the folds and while some benefit might come from bleaching on the stretcher in the sun, no difference in effect is visible when the curtains are hung. They can be pinned to the floor in half the time required to get them on the frames, an operation often requiring four hands instead of two.

For scrim, madras or muslin, the folding method is also desirable, although not quite so important, as the fabric is stronger than lace. It saves time to square the pieces as nearly as possible when hanging to dry, and of course care should be exercised to iron them straight. With this class of curtains it is advisable to make top and bottom hems alike and turn end for end every time they are washed. This adds half to the wear of any curtain as the lower part is the first to give out.

DON'T PEEL POTATOES, FOOD EXPERT'S ADVICE

Probably no foodstuff loses so much in the hands of the cook as the potato. The vegetable is peeled and hacked until the part that appears on the table is but a small proportion of the root as it reached the kitchen.

"Don't peel your potatoes; cook them in their skins," is the advice of a food expert. Paring and boiling potatoes is most wasteful because:—

(1) Not only the skin, but the surface layer and perhaps 10 per cent. of the flesh are removed by thick paring, and the total loss may amount to as much as one-fifth of the whole root, or 1 lb. in every 5 lb.

(2) The surface layers which are wasted contain a larger percentage of solids than the remainder.

(3) The subsequent boiling dissolves out soluble ingredients of the potato, and also breaks down the surface into the water, which is thrown away.

Potatoes peeled and put into cold water and boiled have been shown by experiment to lose:—
Flesh-formation substances, 15.8 p. c.
Ash or mineral matter, 18.8 p. c.
Carbohydrates or starch, 3 p. c.

Boiled or steamed in their jackets they lose only:—
Flesh-forming substances, 1 p. c.
Ash or mineral matter, 3 p. c.
Starch, practically none.

Steaming is preferable to boiling, and the advantage of this method over that adopted by the "plain cook" is not only that a great economy is effected, but that all the flavor of the vegetable is retained. In steaming potatoes in their jackets a cut should be made in the skin at each end, to allow the steam to escape and prevent them becoming stodgy.

"Nothing can be done to safeguard the supply now," said a well known dealer, "but to cook the potatoes in their skins."

"That is a capital idea," said Mrs. Eustace Miles. "I should like to tell everyone, 'Don't waste potato peel.' For years we have served potatoes in their skins, and every day the number of people who ask for them so increases. Cooked in a double pan with

When You Paint Your Home

BE sure to buy a paint that measures up to highest standard in Appearance, Durability and Covering Capacity. If it lacks these qualities, you'll be disappointed in the job and soon will have to do it over again.

Run no risk. Be certain of the result before spending your money. Use

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It contains 70% Brandram Genuine BB White Lead and 30% Pure White Zinc, mixed in pure Linseed Oil and ground to exceeding fineness in our modern plants. Science and extended tests have proved that this combination produces a paint of great Covering Capacity and Durability,—one that will protect your home against the destructive weather of Canada's changeable climate.

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ANCHOR SHINGLE STAIN—A durable stain that will not fade. Comes in twelve colours.

This China-Lac Booklet sent to you FREE

It tells in an interesting manner the many uses to which you can put "China-Lac" Varnish stain. Explains how to use this wonderful home beautifier for best results. Shows conclusively that a small investment in a tin of China-Lac and a varnish brush will repay you many times over in the like-new effect it gives to furniture, floors, woodwork. Also made in gold and aluminum for radiators.

For Sale at all the better Hardware and General Stores throughout Canada

BRANDRAM-HENDERSON

hot air, and not baked, the skin itself can be eaten with perfect enjoyment. Indeed, you don't really know you are eating a potato until you eat the skin. Not only do you get greater nutriment in this way but you eliminate all waste and your potatoes go every much further."

THE GARDEN ON THE FARM

Very few people, whether living in the country, or in towns, or in cities, fully realise the possibilities of the small piece of ground represented by the back-yard of the ordinary city lot or the garden plot on the farm. The farm garden does not receive the attention of the farmer himself to a sufficient extent, and is often left entirely to the care of the farm women. More vegetables in the diet mean better health and cheaper living. This applies to the farmer as well as to the other members of the family.

Planting. If the farm garden is properly arranged, it can be worked with a horse and horse-cultivator, thus eliminating much of the drudgery. A plan should be made of the garden, preferably on paper, but at least in mind. This plan will be very useful when purchasing, planting and recording the dates of planting.

Soil Preparation. The soil should be thoroughly prepared. All rubbish and clods should be thoroughly cleaned out, and the coarser lumps of soil finely pulverized. If there is any doubt as to whether the soil is sufficiently prepared, give the garden the benefit of the doubt, and put a little more work on it. Well prepared soil means a proper seed-bed and better germination of the seed when it is planted.

Varieties. It is better to grow a few of the standard varieties of the more common vegetables than to attempt too many novelties.

Seeds. When buying seed, it is well to remember that the best are the cheapest. Deal with reliable seed firms and place orders for the seeds early.

Sowing. The seeds of such hardy plants as peas, spinach, radishes, lettuce, carrots and onions may be sown as soon as the ground is in proper condition. The seeds of tender crops, such as cucumbers, corn and beans, should not be planted until danger from frost is past.

There is no reason why there should not be a good and productive garden on every farm. It is a profitable undertaking and will give good returns. The time will be well spent and much may be accomplished in the time that the busiest farmer and his family can easily find if they have an appreciation of the importance of the garden and a disposition to undertake the work—F. C. N.

FEEDING YEARLING BEEF

The production of yearling beef or baby beef as it is commonly called, is never likely to be overdone, no matter what happens in the other lines of meat production. The difficulties of growing it and the fact that comparatively few feeders will become successful yearling finishers is the assurance that it will never be possible to create too many of these fat little market toppers. Yearlings to make the necessary weight at selling time, say 1100 pounds at the age of 15 months, must first of all have breeding. Spring calves will not make from 500 to 600 pounds in weight by November unless they have the building. They will not feed to the required 1100 pounds at marketing age if they are not naturally gifted in the art of transforming feed into flesh. Yearling feeders must be well bred steers, well grown for their age at weaning, carrying lots of calf fleshing. This calf fleshing must be kept on them, for its loss cannot be made up by anything the feeder may subsequently do. Therefore it is much more satisfactory to raise this class of feeder than to buy it. Calves cannot be bought in the market and brought home to the farm without loss of weight. Under feed they must be brought gradually to full ration. Full feed should not be reached until at least two months after the feeding has started. It is impossible or practically so to make anything of a steer that goes off feed. He will not lay on flesh afterwards and if the feeding in the early stages is overdone and some of the cattle affected, it is economy to remove them from the feed lot. They will not do right afterwards and will never make first class yearling beef Calves should double in weight between weaning and marketing. To do it the breeding has to be right and the ration adequate.

DINING CAR SERVICE ON OCEAN LIMITED

In placing the Ocean Limited again on the route between Montreal and Halifax, the Canadian Government Railways has paid particular attention to making the dining car service of this premier train meet the needs of its patrons.

Leaving Montreal at 7.15 p. m., the Ocean Limited carries a diner as far as St. Leonard Junction, serving dinner. This is proving a great convenience, especially to passengers arriving from Ottawa and Toronto to make connections for Eastern points.

This diner is picked up at St. Leonard by the Westbound Ocean Limited in the morning, and breakfast is served to passengers before the arrival of the train in Montreal.

The dining car service on the C. G. R. trains has reached a high state of efficiency, and is widely praised by experienced travellers.

McLAUGHLIN

EASE OF CONTROL

THE increasing number of lady drivers brings added popularity to the McLaughlin. Ladies, as well as discriminating men, like the beauty, style and comfort of the McLaughlin. But they like especially the *ease of control* —the quick response—the smooth flexible power, the safety and simplicity of operation of the McLaughlin.

The valve-in-head motor with sound engineering principles and advanced styles of coach building has established McLaughlin supremacy and won for it the appropriate slogan "Canada's Standard Car."

Our new catalogue gives descriptions and specifications of the 1917 McLaughlin series in Roadster and Five and Seven Passenger Touring and Sedan bodies at prices ranging from $910.

Send for your copy to

The McLAUGHLIN MOTOR CAR CO., Limited,
OSHAWA, ONTARIO.

See the McLaughlin series before buying your 1917 car. There is a McLaughlin dealer near you anxious to show our line.

BRANCHES IN LEADING CITIES; DEALERS EVERYWHERE.

BRANCHES IN LEADING CITIES
DEALERS EVERYWHERE

Canada's Standard Car

PATENT PAINTS OF NO AVAIL IN CONTROLLING ORCHARD PESTS

Widely advertised products for the control of blight, scale insects, plant lice, etc., upon orchard trees have been tested at the Colorado Experiment Station to determine their efficiency, and many observations have also been made in orchards where the paints have been used by fruit growers

We would hail with delight any preparation that would produce the results that are claimed for these products, but so far as our experiments and observations go, the indications are that such materials are useless for the control of blight in pear and apple trees, the San Jose scale, and the plant lice such as the woolly aphis, green, apple aphis, rosy aphis, etc. We are also unable to learn of any experiment station that has reported favorably upon the use of such products.

Fruit growers should not allow themselves to be influenced to purchase proprietary compounds that are being advertised for the control of insects and plant diseases without first consulting with the men at the Experiment Stations whose business it is to keep posted upon the value of preparations of all kinds that may be used for the control of disease and insects that infest orchard and shade tree.

Sows brought in to farrow after running outside all winter are liable to become constipated by the change of feed and closer confinement. If they do, trouble is likely to occur when the litter comes. To prevent this disorder feed the sow rather lightly and let a part of her diet be bran. Also roots, if any are to be had, and never fail to let her have access to soil. Soil to eat and root in is the cheapest hog medicine there is.

PALPITATION
OF THE HEART
SHORTNESS OF BREATH
CURED BY
MILBURN'S
HEART AND NERVE PILLS.

Mrs. S. Walters, Matapedia, Que., writes: "I wish to let you know how much good I have received by taking your Heart and Nerve Pills. I was suffering from palpitation of the heart and shortness of breath. The trouble with my heart was caused by stomach trouble.

I had tried all kinds of medicine, both patent and doctors', but I found none relieve me like Milburn's Heart and Nerve Pills. I believe anyone suffering like I did should use them. I only used four boxes and I now feel like a different person."

Milburn's Heart and Nerve Pills have been on the market for the past twenty-five years and have a most wonderful reputation as a remedy for all heart and nerve troubles.

Price 50 cents. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

WINNERS OF SPECIAL PRIZES

$5.00 donated by Fraser Lumber Co., for 1st col. of potatoes, Arch. Smith.

$3.00, donated by J. F. Tweedale, for 1st ol. of potatoes, Arch. Smith.

$1.00 donated by J. W. McPhail, for 2nd col. of potatoes, F. E. Henderson.

$2.00, donated by Mason Johnston, for 1st wheat, White Russian, H. G. Ervine.

$1.50, donated by M. L. Wright, for wheat, Marquis, J. R. Turner.

$1.00, donated by H. Stewart, for oats, Russian, F. E. Henderson.

$1.00, donated by R. Crawford, for oats, Swede, Walter Brooks.

$1.00, donated by D. R. Bedell, for oats, Early Yielder, H. G. Ervine.

$1.00, donated by J. W. Niler, for oats, Banner, J. W. Stevenson.

$1.00, donated by N. J. Woottin, for oats, Black, J. W. Stevenson.

$2.00, donated by G. B. McLaughlin, for barley, 2 rowed, J. W. Stevenson.

$1.00, donated by C. H. Elliott, for barley, 6 rowed, J. W. Stevenson.

$1.00, donated by H. Inman, buckwreat, rough, J. R. Turner.

$3.00, donated by R. W. Estabrook, for clover seed, Asa Adams.

$1.00, donated by A. Stevenson, for timothy seed, J. W. Stevenson.

$1.00, donated by G. T. Baird Co., for yellow eye beans, J. W. Stevenson.

$1.00, donated by Geo. Dionne, for peas, large white, H. G. Ervine.

$1.00, donated by A. E. Kuphey, for corn on cob, D. Curry.

$2.00, donated by Porter Manjer Ltd. for potatoes, Cobblers, F. E. Henderson.

$2.00, donated by Dr. Dickinson, for potatoes, Mountains, F. E. Henderson.

$1.00, donated by F. Sloat, for potatoes, Early Rose, G. G. Porter.

$1.00, donated by H. K. Douaghy, for potatoes, Blak Christie, D. Curry.

$1.00, donated by Lafferty & McLaughlin, for potatoes, any red variety, D. Curry.

S. B. Wright, Sec.

ANNUAL SEED FAIR OF VICTORIA CO. SEED ASSOCIATION

The Annual Seed Fair of the Victoria Co. Seed Association was held on Tuesday, Mar. 27th, in Perth.

There were twenty exhibitors, but a number were unable to get there, as the roads were very bad, the snow very deep.

The judges were Mr. O. C. Hicks and Mr. S. J. Moore.

Prizes awarded as follows:

Wheat, Red Fife—1st, J. W. Stevenson, $2.00; 2nd, T. Stevenson, $1.75; 3rd, J. W. James, $1.50.

Wheat, White Fife—1st, H. G. Ervine, $2.00; 2nd, F. E. Henderson, $1.75; 3rd, D. Innis, $1.50; 4th, D. Curry, $1.25.

Wheat, White Russian—1st, F. E. Henderson, $2.00; 2nd, H. G. Ervine, $1.75; 3rd, Arch. Smith, $1.50; 4th, W. Brooks, $1.25.

Wheat, any other variety—1st, J. R. Turner, $2.00; 2nd, J. W. Stevenson, $1.75; 3rd, T. Stevenson, $1.50; 4th, Walter Brooks, $1.25.

Oats, Banner—1st, J. W. Stevenson, $1.50; 2nd, T. Stevenson, $1.25; 3rd, D. Innis, $1.00; 4th, J. T. Turner, $0.75.

Oats, Russian—1st, F. E. Henderson, $1.50; 2nd, R. Henderson, $1.25.

Oats, any other variety—1st, E. H. Sisson, $1.50; 2nd, E. W. Sisson, $1.25; 3rd, H. G. Ervine, $1.00; 4th, D. Innis, $0.75.

Barley, 2 rowed—1st, T. Stevenson, $1.50; 2nd, D. Innis, $1.25.

Barley, 6 rowed—1st, T. Stevenson, $1.50; 2nd, J. W. Stevenson, $1.25; 3rd, H. G. Ervine, $1.00; 4th, D. Curry, $0.75.

Buckwheat, rough—1st, J. R. Turner, $1.50; 2nd, J. W. Stevenson, $1.25; 3rd, H. G. Ervine, $1.00; 4th, R. Henderson, $0.75.

Peas, large white—1st, W. Brooks, $1.50; 2nd, D. Curry, $1.25; 3rd, D. Innis, $1.00.

Peas, small field—1st, D. Curry, $1.50; 2nd, F. E. Henderson, $1.25.

Beans, yellow eye—1st, F. E. Henderson, $1.50; 2nd, D. Curry, $1.25; 3rd, J. R. Turner, $1.00; 4th, J. W. Stevenson, $0.75.

Beans, white—1st, J. W. Stevenson, $1.50; 2nd, T. Stevenson, $1.25; 3rd, ;. Curry, $1.00; 4th, Alvin James, $0.75.

Beans, any other variety—1st, J. W. Stevenson, $1.50; 2nd, W. Brooks, $1.25; 3rd, D. Curry, $1.00; 4th, T. H. Manjer, $0.75.

Clover Seed—1st, Asa Adams, $1.50.

Timothy Seed—1st, J. W. Stevenson, $1.50; 2nd, T. Stevenson, $1.25; 3rd, D. Curry, $1.00.

Potatoes, Irish Col bler—1st, H. G. Ervine, $1.25; 2nd, F. E. Henderson, $1.00; 3rd, T. H. Manzer, $0.75; 4th, J. R. Turner, $0.50.

Potatoes, Green Mountain—1st, F. E. Henderson, $1.25; 2nd, E. H. Sisson, $1.00; 3rd, H. G. Ervine, $0.75; 4th, W. Brooks, $0.50.

Potatoes, Bliss Triumph—1st, Arch Smith, $1.25;, 2nd, F. E. Henderson, $1.00; 3rd, D. Innis, $0.75; 4th, R. Henderson, $0.50.

Potatoes, white, any other variety—1st, J. R. Turner, $1.25; 2nd, F. E. Henderson, $1.00; 3rd, Arch. Smith, $0.75; 4th, Asa Adams, $0.50.

Potatoes, red, any other variety—1st, G. G. Porter, $1.25; 2nd, H. G. Ervina, $1.00.

SKIMMING WHEY FOR BUTTER FAT

When some people get the new bulletin of the Vermont department of agriculture entitled, Skimming whey at cheese factories, they will wonder what it is all about. A careful reading will show how Vermont alone is wasting about $16,000 every year by not skimming whey. Commissioner Brigham and his associates point out that there is quite a bit of butter fat in whey as it comes from the cheese factory. As drawn from the vat it contains about 0.3% fat. Drippings from the press are much richer. The skimming of fresh whey does not materially lessen its feeding value for live stock.

A concrete example is cited, that of Meadowbrook factory at Middletown Springs, which skims whey successfully. For the first part of the season of 1916 there were 189,000 pounds milk received. The whey was skimmed, and butter made therefrom sold at 27½ cents returned $120. The total expense of the skimming including 20% interest and depreciation on money invested in necessary machinery, was only $33. This left net receipts of $87 from this one creamery. It returned farmers 4.6 cents more per 100 pounds for milk than they would have received if the whey had not been skimmed.

In 1916 Vermont produced 25 million pounds cheese. Counting it very low 2¼ pounds butter fat may be saved from each 1000 pounds milk received if the whey is skimmed. This means a saving of at least 56,250 pounds butter fat, which, figured as low as 30 cents a pound, would return $16,750. Thus is seen the importance of the bulletin in question.

When a factory wishes to skim whey there are a few essential points for success. First, all parties concerned must be interested. Second, some provisions for the extra labor must be made. The maker should be informed, when hired, that he will be expected to do this work and his salary fixed accordingly. Third, profits must be equitably divided. The total cost of equipment for skimming apparatus in a plant with 2500-pound daily capacity is around $385, for a 5000-pound plant $499, for a 10,000-pound plant $509. Many times this cost can be reduced by purchase of second-hand equipment. Furthermore, most factories have old vats which may be used as feed and storage tanks without additional expense. Whey cream may be disposed of in the same market as ordinary cream. Local restaurants and ice cream factories are desirable customers.

In conclusion, the bulletin states: "Whey skimming is no longer an experiment, but a proved paying proposition. It would mean a yearly saving of thousands of dollars to Vermont cheese factories. The invest-

DUNLOP TIRES

First and Still First

¶ No other tire can offer you a single feature not found in Dunlop Tires—"Traction," "Special" or "Plain."

¶ We are the founders of the tire industry in Canada, and our experience is greater than that of all other Canadian tire-makers combined.

A. 77

"SPECIAL" DUNLOP "TRACTION"

SUMMER SHOES FOR MEN WHO WORK

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are light weight, comfortable, durable working shoes for spring, summer and fall wear. Sold by leading dealers everywhere. If your merchant does not carry them write us, giving his name and address, and we will see that they are placed within your reach. Made 4, 6 and 9 inches high. 19

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IF there is one thing you need around the home or farm, it is Carbonol. Good in a hundred different ways. Helps housecleaning. A few drops in a pail of water makes a bucket of antiseptic, grease-killing liquid. In solution, it is wonderful for cuts on yourself or your live stock. Drives away flies, disinfects the sick room, makes barns, stables and henneries sanitary. You should not be without it. Get some now. In bottles.

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ment required is small. Farmers would receive more for their milk. The feeding value of the whey would not be materially lessened. Better cheese would result since factories could afford to pay higher salaries to competent cheese makers."

A GOOD WORD FOR THE MARITIME FARMER

The Enterprise, published in the enterprising town of New Glasgow, N. S., has the following advice for the farmers of Pictou county, in which it has a large circulation.

"Every farmer should take at least "one agricultural weekly or monthly "as the case may be; in fact it would "not hurt him to take two or three "of them for that matter. Every "trade and specialized occupation has "its own weekly or monthly devoted "to the interests of that particular "trade or occupation. And if the far"mer has any interest at all in his oc"cupation; if he desires to succeed "and become successful in his line of "business, he must keep in touch with "the great agricultural world around "him; he must keep up with the pro"cession, as it were, and be informed "of all that is being done and may be "done in the development and pro"gress of agriculture, not only in his "own province, but elsewhere.

"Now is the time for every well-to-"do and progressive farmer to ask "himself: What agricultural paper or "periodical shall I take that shall "help me and my family in the vari"ous branches of farm work that we "are engaged in at present? We shall "answer that question as follows:—

After saying some good things about several of the farm papers published in Ontario, The Enterprise concludes as follows:

"Coming down nearer home, we have the Maritime Farmer published at Sussex, N. B., twice a month, in the interests of the farmers of the Maritime Provinces."

It is also a creditable publication and deserves a larger circulation amongst our country friends. The information a farmer gains by reading it carefully should be worth hundreds of dollars annually to him and his family. As it is published nearer home, it should have the first claim upon the sympathies of the farmers of Pictou County. Only one dollar a year.

Our country readers can now have their choice. Subscribe annually to one or all of these.

VITALITY OF SEEDS.

All vegetable seeds have their limit in vitality. Some retain life longer than others, depending upon the condition, and the climate in which the seeds are kept. Seeds should never be kept in air-tight receptacles, as seeds need air the same as any other living matter. We give below a list showing the life of seeds. If they are older they are worthless. Also seeds do not keep so well in moist, warm countries as they do in a drier atmosphere. It is not safe to use older seeds than the limits given.

Asparagus 2 years.
Beans, 1 year.
Cantaloupes, 3 years.
Watermelons, 6 years.
Beets, 3 years.
Cabbage, 3 years.
Carrots, 1 year.
Cauliflowers, 2 years.
Celery, 3 years.
Collard, 4 years.
Corn, (Sweet), 2 years.
Cucumbers, 4 years.
Egg Plant, 5 years.
Lettuce, 1 year.
Okra, 3 years.
Onions, 1 year.

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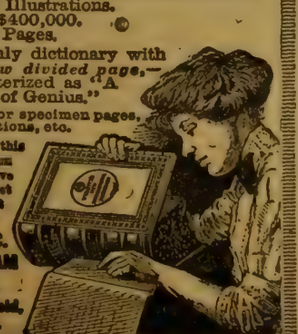

TANKAGE

Editor Maritime Farmer:

Will you kindly let me know where tankage,—the kind made from blood and meat scraps and used for feed, is to be obtained in Canada?

If it can be obtained, I would like to know if it can be depended upon as being of good quality and as represented by the producers. I would appreciate very much any information you can give me regarding the matter.

S. McL. D.

E. S. Archibald, Dominion Animal Husbandman says: We have tried two brands of tankage, namely the Harab tankage, manufactured by the Harris-Abattoir Company of Toronto, Ont., and the Swift Digester Tankage, manufactured by the Swift Canadian Company of Toronto, Montreal, etc.

Tankage has proven satisfactory in our feeding experiments, particularly in the case of young pigs. This brand of tankage is of course refined particularly for feeding purposes.

Write the manufacturers, we believe they will live up to any agreement they may make in regard to quality of goods they have to offer.

PURE SEEDS

SAVE MONEY High Grade Tested Seeds are always reliable when of Rennie Reputation.

Sudan Grass, new annual forage crop, enormous yielder.....lb. 40c
White Wonder Millet, yields 50% more than others..lb. 30c
Rennie's Early Yielder White Seed Oats. Peck 60c, bus. $2.25, 10 bus. $22.00.
High Grade White Cap Yellow Dent Seed Corn. Peck 75c, bus. $2.75.
High Grade Gold Nugget Yellow Flint Seed Corn. Peck 90c, bus. $3.35.
Dwarf Essex Broad Leaved Sowing Rape. 10 lbs. $1.70, 100 lbs. $15.00.
High Grade Cream Calf Meal, guaranteed...50 lb. bag $2.50
Earliest Six Weeks Seed Potatoes....Peck $1.00, bus. $3.50
Columbia Mammoth Two-year-old Asparagus Roots. 100 $2.20
Prolific Golden Wax Butter Bush Beans. 4 oz. 15c, lb. 50c, 5 lbs. $2.25.
Early Eclipse Blood Turnip Table Beet.....Pkg. 5c, oz. 15c, 4 ozs. 40c.
Copenhagen Market Cabbage, best early. Pkg. 10c, oz. 75c, 4 ozs. $2.00.
Half Long Danvers Red Table Carrot.....Pkg. 5c, oz. 25c, 4 ozs. 65c.
Crosby's Early Sugar Table Corn. Pkg. 10c, lb. 35c, 5 lbs. $1.50
XXX Table Cucumber, for slicing. Pkg. 10c, oz. 25c, 4 ozs. 60c
New York Wonderful Lettuce, summer head. Pkg. 10c, oz. 25c
XXX Earliest Water Melon, best for north..Pkg. 10c, oz. 20c
Select Yellow Dutch Onion Setts.....lb. 35c, .5 lbs. $1.70
Shallot Multiplier Onions, for early use...lb. 30c, 5 lbs. $1.40
Rennie's Extra Early Garden Peas, very early..4 ozs. 10c, lb. 30c, 5 lbs. $1.25.
Sparkler Radish, crisp table, round red....Pkg. 5c, oz. 15c, 4 oz. 40c
IXL Extremely Early Tomato, very prolific.....Pkg. 15c, ½ oz. 30c.
Rennie's Superb Mixed Gladioli Bulbs. 10 for 50c, 100 $3.50
Spencer Sweet Peas, choice colors, mixed..Pkg. 10c, oz. 30c
Rochester Giant Asters, Pink, White, Lavender or Mixed. Pkg. 15c
XXX Nicotiana, splendid colors, mixed hybrids...Pkg. 10c

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SPRAYING MIXTURES

Editor The Maritime Farmer:—

As a reader of your valuable paper and Secretary of the Agricultural Society of this place, I would ask you to tell me through your olumns:—

1. In what proportion does Paris Green need to be diluted for spraying cabbage and other vegetables;

2. Please give an outline of how it is prepared for use. Also Arsenate of Lead for same purpse?

3. In what proportion does formalin need to be used for disinfecting seed? Newfoundland.

Answer. 1. For dusting, mix 50 lbs. land plaster, air slacked lime, road dust or some similar substance with 1 lb. Paris Green.

As a spray, ¼ to ½ pound Paris Green must be put in 40 gallons of water, to which one or two pounds air slacked lime has been added.

2. If you use Arsenate of Lead paste, use 2 to 3 pounds to forty gallons liquid spray. If dry Arsenate of Lead is used, use 1 to 1½ lbs. to forty gallons.

3. One pint formalin to 40 gallons water.

THE MASSEY-HARRIS CO'S SPLENDID CONTRIBUTION

The Patriotic Fund and the Red Cross Society joined hands recently in an appeal to the generosity of Toronto citizens and firms, asking the immense sum of $2,500,000, and that it be raised in four days. Toronto, like every other city, town and hamlet in Canada, has gone deep into its pockets to aid such worthy causes.

Not only was $2,500,000 raised in the four days, but this sum was increased to $3,350,000, thereby maintaining its place at the top of the ladder as regards free-will offerings toward the war.

The Massey-Harris Company has always shown the right spirit in its contributions toward these funds and this year was no exception, when it gave to the campaign the magnificent sum of $20,000. In this connection it might be well to say that the Massey-Harris Company bought and is maintaining a hospital in England, one of the finest in that ountry, where many a Canadian hero is receiving treatment and recuperating from the Hunnish slaughter.

The Agricultural Instruction Act's Commission Addresses the Farmers of Nova Scotia

Address before Nova Scotia Farmers' Association, at Amherst Jan. 23rd, 1917.

Mr. President, ladies and gentlemen:

When I received the kind invitation from your Secretary, to attend the Annual Meeting of your Association, I began to look forward to the pleasure of making the acquaintance of the representative farmers of this Province, and to learn more about your conditions. I did not consider, however, that my limited knowledge of farming in Nova Scotia would justify me in addressing you at great length on this occasion. For a number of years I lived in Western Canada, and while there developed antipathy for the type of man who came to Canada from the Old Land went across the country on the train, looked out of the car window, and returned home to write articles for the press, or perhaps a book on the suitability of this Dominion for immigration, and on what the people living here should do to become prosperous. Were I to address you tonight on how to improve your conditions, I might be equally open to censure.

My personal knowledge of Nova Scotia has been confined to one previous visit, covering a period of a few days, but I have had the good fortune to come in contact with a great many born and brought up in this part of Canada, who went westward and became engaged in Agriculture, or located in the towns and cities of the Prairie Provinces, there to become prosperous. In my observations, I have noticed with a great deal of interest, that many Nova Scotians have gained positions of great prominence in the educational institutions of Canada. There are more college and university presidents in the provinces of this Dominion west of here who were born in Nova Scotia, than elsewhere. Your contribution to the educational institutions of the Dominion have been very great. In other important respects, notably in the number of statesmen contributed to the nation's chief legislative halls, the name of Nova Scotia stands high not at the head of all list.

Before proceeding to discuss certain aspects of the subject of Agriculture, I desire to say that, after all, the one question of supreme importance in Canada at the present time is the prosecution of the war to final victory. Even more than ever, we now realize that it is our war. We have begun to understand its meaning; we have felt its sacrifices. After more than two years of conflict, with an unprincipled and barbarous foe, we see clearly that less than complete victory for the armies of Great Britain and her Allies would mean disaster to the Cause of Peace, to the highest welfare of the human race in the days that are to come. Fortunately, our understanding of these matters has so developed that national determination to contribute as fully as possible, and in every way that will help, is even more fixed than it was one year ago.

Second only in importance to the prosecution of the war, the re-creation of national Agriculture must be considered. The progress of the farming industry, it is now apparent to everyone has a very close relationship to our winning the war. To fight well, our armies must be well fed. If every shell is a life-saver as well as a life-taker, it is equally true that every bushel of grain, every pound of beef, mutton and pork, every consigment of cheese and flour which we can produce and spare, over and above our own pressing requirements, will help to lighten the burden, and even save the lives of those doing their part nearer the firing line.

Canada's contribution in men has been admirable, and her contribution in food supplies has been of the greatest importance. It will be of even more importance during the year upon which we have entered. There never has been a time when we could so help in the great cause for which we are fighting; never before a time when the farms of Canada could so contribute toward hastening victory as by producing an abundance of food supplies.

This war has demonstrated more than any event in history, the vast, indeed the vital importance of successful agriculture to any country. Before the conflict began, this fact was slowly becoming apparent to the commercial and financial interests of the Dominion. Business men were beginning to realize that, in the cultivation of the soil and in the production of live stock, lay not only the basic industry, but the industrial and commercial salvation of this country.

Canada is essentially an agricultural country. Its chief asset is the soil. Great though the values of the products of the sea, forests and mines are known to be, the possibilities in plant and animal production far exceed them in magnitude and importance. In order to realize the significance of this statement, it is necessary to bear in mind that during the twelve months ending January, 1916, the total exports of farm products for Canada amounted to $337,620,583, while the exports from mines, fisheries and forests showed the sum of $136,580,135. or forty per cent. of the former. Moreover, the products of the mine were taken never to be restored, and those of the forest to be renewed only after many years, whereas the farm production, where intelligently carried on, was secured without depleting to any appreciable extent, nature's storehouse of ressources.

The manufacturing industries, it is true, have come to occupy a position of importance in the country's progress, but a large proportion are dependent upon farming for their raw materials, and almost all must look to the rural districts for a large part of the market for their finished product.

Therefore, the progress of agriculture in Canada is a matter of national concern; it affects everyone. The soundness of the old maxim that when farming succeeds all other interests succeed, and that when it fails no other business can prosper, has been demonstrated frequently in this country in normal times. That it will be even more evident in the future, appears certain.

In preparing for the important period of reconstruction, which will follow the conclusion of the world war, the highest interests of Canada can be best served by the adoption of such measures as will ensure that, so far as possible, the business of farming shall be both attractive and profitable.

It has long been held by authorities in political economy that no nation can succeed indefinitely without a vigorous, prosperous and contented population identified with rural life. As the source from which has come the main supply of strong manhood and womanhood to our seats of learning, afterwards to occupy foremost places in the various learned professions and positions of trust and leadership in the councils of the nation, the country home has been most conspicuous. It has contributed far above its due proportion. In all the chief elements that make for national stability, intellectual power and moral and social uplift, the home of the country stands pre-eminent. Within it the very soul of Canada may be said to be contained.

There has been for a number of years an alarming tendency for towns and cities to increase in population at the expense of rural districts. In many of the older parts of Canada there are fewer people now living on the land than there were fifteen years ago. The census returns for the decade 1901-1911 show that, while the urban population increased sixty-two per cent. the rural increase was only seventeen. During the same period the proportion of rural population decreased from sixty-two to fifty-four per cent. of the total. Various reasons have been advanced in explanation of why agriculture did not appeal to a larger number of the new settlers during the decade in question, but after due consideration has been given to all that can be said on the subject, the fact remains that had the business of farming appeared as remunerative and attractive as other callings, the result in extent of country population would have been more satisfactory.

In view of the great importance of rural population in the building of a nation, the question of how to ensure that, at the conclusion of the war, those engaged in agriculture shall constitute a proper proportion of the total population, becomes pertinent. Land settlement is a subject now being frequently discussed, and various schemes calculated to induce rapid occupation of uncultivated land have been advanced. It cannot be denied, however, that the first step in a permanent solution of the problem lies in developing such conditions as well enable those engaged in farming to be at least as prosperous and contented as those following other occupations requiring similar skill and energy.

Having in mind the present status of agriculture and the state of rural civilization desired throughout Canada, it becomes necessary to give consideration to the needs and problems which must be dealt with in order that the chief industry may make progress in keeping with its possibilities.

These may be stated as follows:—

(1). A supply of labour, male and female, capable of performing farm and household work.

(2). An organization of the business of marketing farm produce, and the effecting of such measures of control in the various stages as will prevent an undue proportion of the value of products being required to cover the cost of transference from the producer to the consumer.

(3). A widespread application of the principles of co-operation to the activities of those engaged in the farming business.

(4). An improvement in transportation facilities, especially highways, in order that the cost of conveying produce from producing to consuming centres may be reduced and the time required for delivery lessened.

(5). A readjustment of existing financial institutions or the establishment, if necessary, of new ones in order that money may be more readily obtainable for long and short term loans, for safe agricultural projects, at equitable rates.

(6). The providing of better educational facilities in country districts.

(7). An organized influence that will promote the improvement of social conditions in rural districts, in order that farm life may become more congenial and attractive.

(8). A more intelligent appreciation by the leaders of commerce and finance of the difficulties encountered by farmers in securing adequate returns for their labours.

(9). A higher degree of efficiency in farm management.

Upon each one of the problems thus briefly indicated, I might elaborate, but time will not permit. In speaking of Efficiency, to an audience of leading and successful farmers such as you are, I always feel a great deal like a clergyman whom I once heard say, that the fellows he desired most to influence toward better living he could never get within reach of his voice unless he was preaching a funeral sermon. They did not attend at other times!

I do not believe that you who are here need a lecture on the subject of efficiency, but you have a great influence over those who labour on farms around about yours, in the communities in which you live. As I intimated previously, I am not familiar with your conditions, but I venture to say that if all farming in Nova Scotia were as efficiently carried on as by the average of you, the products of the farms of the Province would be doubled annually. It is true, in the other provinces of Canada, that if the average in efficiency could be made to equal the practice of ten per cent. of those farming who are doing the best work, production would be twice what it is at the present time.

The question of efficiency is therefore of very great importance. Farming to-day, is a complex business; it is a combination of enterprises, and the one who does not so regard it, is doomed to failure. To be a really successful operator of land, one must be proficient in many things. He requires to be a combination of the practical scientist and the business man; he must be a judge of animal form, have a thorough knowledge of the soil; a fine understanding of dairying, of poultry-raising, and of the value of fertilizers. He must be a mechanic, capable of directing the repairing of farm implements, and more than all, have executive ability which will enable him to direct the affairs of his concern with greatest advantage. Heretofore, farming as practised by many has not been so regarded. It has not been taken seriously enough.

It is not long since the man who looked into books to improve his knowledge of farming, or who studied scince for the purpose of getting greater returns from the soil, was ridiculed by practical men; but that day has passed. I know that you, the leading farmers of Nova Scotia are not unappreciative of the value of scientific training in relation to successful agriculture. When I was in this Province a few months ago, I enjoyed a visit to your beautiful, well-equipped and efficiently managed College of Agriculture. I observed the attention being paid to the science of soil management, and to the importance being placed on the breeding and management of the live stock. I know of most successful short courses in farm management that have been held from time to time in various parts of this country. Hence, I understand your appreciation of these things, and am hopeful, very hopeful, for the future.

It was because of the great importance of teaching an agricultural science, that the Agricultural Instruction Act was passed in 1913, on the recommendation of Honourable Mr. Burrell, Minister of Agriculture. I do not need to say anything about the application of the provisions of this Act to work in this Province. You, I am sure, are quite familiar with what is being done.

In outlining this important legislative measure, it was thought advisable to set apart ten million dollars to be used during a period of ten years in the interests of Agricultural Education. Seven hundred thousand dollars were given to the provinces the first year, the amount being increased one hundred thousand dollars annually, until 1917, from which year until 1923, eleven hundred thousand dollars will be provided yearly. Twenty thousand dollars, of the sum it was decided, should be given to the Veterinary Colleges of Canada because it was felt that successful agriculture depended upon live stock raising and that therefore, the highest class of trained veterinarians that our colleges could produce would be required to aid in stock-raising. In addition to this

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sum, it was decided to allot to each province, regardless of papulation, the sum of twenty thousand dollars, the remainder being divided on the basis of population.

At the beginning of each fiscal year, April first, the Provincial Ministers of Agriculture submit to the Minister of Agriculture for Canada statements showing in detail how it is desired to make use of the provincial subsidy. If satisfactory to the latter official, agreements are entered into, and signed by the Federal and Provincial Ministers.

When this Federal money first became available, and it was decided to improve the facilities for placing Agricultural Instruction at the disposal of those who desired to be benefitted by it, it was soon realized that there was great need for more trained men in Agriculture. Accordingly, our Agricultural Colleges have been greatly strengthened. In some instances buildings have been erected from the Federal grant, and in almost all provinces the staffs of these provincial institutions have been increased or enlarged, as a result of the Federal aid. A special effort has been made to improve the facilities for carrying agricultural knowledge to those in the country too busily engaged to assemble at central points such as colleges of agriculture, where special courses are regularly given. A great deal has been spent on short courses in Agriculture for men and Household Science for women. District representatives and special advisors in agricultural subjects have been appointed and located permanently or temporarily in various parts of the country, their salaries and expenses being spent from this Fund.

It would be unwise for me, having already detained you at great length, to attempt to enumerate the many lines of valuable instruction being carried on throughout Canada under the provisions of the Agricultural Instruction Act.. It fairly may be said, however, that as a result of it, agricultural teaching, and the application of science to practice, both in our schools and on thousands of farms throughout the Dominion, have received a great impetus, and as yet only a beginning has been made of what there is to be.

late you upon the excellent organization that you have here in your Farmers' Association. The wide range of subjects that you take under consideration, and your method of discussion, are sure to bring great benefit to the business of farming throughout this country in future years. My best wishes I leave with you.

THE RELATION OF GOOD ROADS TO THE AGRICULTURAL DEVELOPMENT OF NEW BRUNSWICK.

Economists maintain that the transportation facilities existent in any country for the distribution of its products and the utilizing of its natural resources, are a fair index to its industrial and economic activity: the roads are a measure of its civilization.

The fact is indisputable that wagon roads follow the path of civilization and that good wagon roads play a very important part in the agricultural development of a country. No other factor so profoundly affects the rural welfare. The social, educational and financial well-being of the rural community depends, to a very great extent, upon its roads.

Statisticians of good roads economics have compiled data of the financial benefits of good roads to the rural community due to the decreased cost of hauling crops to market. The argument presented for road improvement being, that the saving thus effected warrants expenditures for highway improvement.

The difficulty of determining exactly the financial value of road improvement, based alone upon the cost of wagon transportation to the farmer, makes it doubtful whether any considerable expenditure for the improvement of rural highways can be justied when based upon such statistics alone. But, the saving in transportation costs, in conjunction with the enhanced value of land having access to an improved highway and other immediate financial gains which accrue to the community as a result of good roads, make it expedient that the highways be made efficient avenues of traffic. Furthermore, there is also to be considered the development and betterment of rural conditions effected from the standpoint of the social, educational and recreational needs of the community.

Ex-President Roosevelt has said, "Good roads are needed for the sake of their effect upon the industrial conditions of the country districts, and, I am almost tempted to say that they are needed more for their effect upon the social condition of the country." Who will say that the same necessity for good roads does not exist in New Brunswick? They bring the farmer nearer to business, nearer to church, nearer to the school and nearer to his neighbor.

Without good wagon roads the rural exodus from our country districts has been fostered due to the consequent isolation and monotony of country life. As a result, the younger generation was attracted by the activity of the city and, because of their inability to secure efficient help, farm owners in many instances have been compelled to abandon their farms.

It is an incontrovertible fact that good roads will do more for the development and betterment of rural conditions and for the maintenance of a desired standard of rural life than will almost any other factor related to agricultural development.

Apart from the ordinary use of highways as a social need, they may even become of great service politically, just as do railways and ocean steamship lines in the event of international troubles. This phase of highway utilization was well expressed by the slogan of the Dominion Good Roads Association,—"Good roads are a national asset and form part of the defence works of a nation." As a factor in the general welfare of the people wagon roads should be a subject of general interest and concern to both

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The very close relation and influence of good roads upon the social, intellectual and business requirement of the rural community must be apparent to all. Any factor which contributes so much to the development and welfare of the rural district, as does this, must be given the whole-hearted support of the nation, for the well-being of the rural community is a matter of vital concern. The results are far-reaching. They even involve the welfare of the nation. A policy for good roads, then, may be urged for the same reasons that good schools are maintained, namely, because they increase the intelligence and value of the citizen to society; because they are a comfort and a pleasure; because they contribute to social and business advantages and are of themselves a sure index of the intelligence, enterprise and prosperity of a community.

The subject of highways has become a matter of general interest since they are now one of the utilities of public life with which practically all of our population come directly into contact. The people of the town know that good roads mean greater activity and greater business for both farmer and townspeople.

The radius of travel has been greatly increased by the introduction of the automobile. Traffic has increased immensely and the tendency is towards a still greater use of the highways, if we may judge from the increasing number of automobiles in use within our province and by the increase in the automobile business, which has now risen to fourth place among the great industries of the United States.

These conditions demand greater expenditures for extension and more efficient maintenance of the highways throughout this province.

To the farmer the improvement of the highway means heavier taxation and increased costs. However firmly he may believe that good roads are a necessary part of a good country life, he hesitates to make any radical change. The solution of the problem of securing appropriations for highway improvement and successful administration lies in the cooperation of efforts between townspeople and the rural population.

Nothing pays like first cost in road-building. "To build and not build well is wasteful; to build and not maintain is criminal." Hence a policy of road administration should make provision for location, construction and maintenance of its highways. There should be economical expenditure, permanent construction and efficient maintenance. Money expended upon intelligent study of the location is the most economical expenditure in the construction of a road. It frequently happens that a road which may have been considered "good" and properly located when the region which it traversed was new and undeveloped, may require to be relocated on account of an increased amount or change in the character of traffic.

The use of traction power for road-making purposes is now coming into use and under certain conditions has proven a very cheap and effective means of grading up country roads. It is a recognized fact that more work is required for the upkeep of the roads heavier machinery than horse-drawn has become necessary for the accomplishing of effective road work.

Canada is looking forward to a tide of immigration at the close of the present war, such as she has never had before. We assume that a portion of this settlement will be in the province of New Brunswick, for we have some thousands of acres of practically free land, capable of producing agricultural crops which will enable settlers to make a livelihood.

There can be no question as to the value of the land but are our highways, which form the transportation facilities, adequate to satisfy these people? They require facilities for the distribution of their products and the means by which to enjoy natural social conditions. The expense of hauling farm produce to market over the generally bad roads of the country results in a widespread reduction of the farmer's legitimate profits. We hear a great deal about questions of railway transport charges and of organization of cooperatiive societies to lessen the cost of market transport, but before we can materially lessen marketing charges and, incidentally, the cost of living, better roads must first be provided.

However pressing the need for good roads may be for transportation purposes, we must not over-look the fact that the interest in good roads has a broader foundation than mere commercial needs. Comfortable and easy communication between members of a rural community and also between rural and urban inhabitants is of great importance in the social, educational and recreational requirement of a community. Urbanization of population has proceeded faster in Canada during the past decade than in any other country. The urban population has in a large measure been recruited from rural Canada and, as a result, the country community has suffered; in the school, in the church, in the organization of effort of any kind.

Good Roads and the Consolidated School.

Many parents forsake the farm to educate their children in the town. These are just the class of intelligent people who are most needed in the country, compelled to leave because of the lack of an educational system which could be adopted in many communities if there were better roads.

It is safe to say that the common rural school does not meet the requirements of those dependent upon it so well to-day as it did a generation ago. To-day much more training is required to enable the country boy and girl to meet the demands on their intelligence. Its failure has directly contributed to the rural stagnation. From Massachusetts, where the first consolidated school was inaugurated, in 1874, a writer says, "Owing to consolidated schools, attendance has increased. We attribute this to the willingness of young married people to settle on the farms, since transportation secures to their children educational opportunities as good as the towns provide."

"In other States, miles of gravel roads have been built by the farmers to facilitate the transportation of pupils."

SMUT

(Continued from page 427)

then place in new bags or in bags that have been treated in a similar manner and thoroughly dried, thus preventing recontamination.

Take the precaution each year to treat your seed grain as above described. Soak all your grain sacks in formalin solution. Spray the grain box of your seed drill and when your grain bins are empty go all over them with a strong formalin solution. Treat other receptacles used for holding grain in a similar way. The fanning mill and the threshing machine must not be neglected.

Threshing machines that are taken from farm to farm to do custom threshing are frequently carriers of the infestation as well as of weed seeds.

If the foregoing precautions are followed, you will not only be able to check the trouble, but eradicate it entirely from your premises. The treatment is inexpensive and consequently it should be followed each spring as a precautionary measure. Prevention is better than cure.

FOR AN APPRECIATION OF CLOVER

(Continued from page 423)

dred pounds per ton of hay is a usual return. The cost of operating a clover huller should not exceed $10.00 or $12.00 per day, when threshing about 12 or 15 tons of clover hay.

Harvesting the seed crop is accomplished by cutting with a mower when the growth is excessively heavy; otherwise, by a self-rake reaper or even a binder, with or without the tying apparatus, but preferably without. A table attachment, or buncher, is made by some companies, attachable to their mowing machines, which work well where the crop is not heavy. From five to ten days are required to properly cure the crop. The bunches should be frequently turned when possible, while still damp with dew, so that scattering of the seed by the heads breaking off will not occur.

The crop should be stored in a dry mow, and not thrown into a deep, unfloored bay, which allows moisture to rise from the ground. It should be drawn in from the field when as dry as it is possible to cure it, for any dampness causes difficulty in the threshing and it sometimes injures the viability of the seed.

A variety of clover, of which great claims are being made to recommend it to notice, is the Sweet Clover or Tree Clover. Those who know the plant have popularly regarded it as a weed—but, a weed which bears the characters of a clover must have some traits which, under special conditions, would commend it to our use.

To many Ontario farmers it has proven a mortgage lifter, for, quick to seize the opportunity of supplying a demand for seed, they have met the demand of the seed merchant.

Sweet Clover will grow in situations where other clovers will not—along railroad tracks, gravel banks, fences, and upon hillsides, in the absence of humus in the soil, often reaching a height of ten feet under seemingly deterrent conditions. Knowing its habit, who can say that it has no place in our crop system?

As a palatable hay or pasture grass it is open to attack,—but those who have persistently grown it and fed it to stock, deny all these objections by saying that their stock prefer it to almost any other hay or clover, though it must be cut before blooming to be relished.

Practically any crop which is new to stock will not be readily eaten, especially if it is odorous, but if stock do not refuse to eat it. A very good plan to adopt when first feeding it to stock as hay, is to moisten it with briny water when they will eat it for the salt.

The seed of this plant closely resembles that of alfalfa, but can readily be distinguished by the sweet odor which arises when moistened.

It is sown at the rate of fifteen to twenty pounds per acre and, in poor soil, without a nurse crop. The plant does not bloom during the first year, nor should it be cut but allowed to freeze down, after which two crops may be expected during the following year.

White Clover seems to have been fully appreciated only by the people of Ireland, who, under the name of Shamrock, have adopted it as their national emblem.

Without question, white clover is the most valuable pasture plant which grows in New Brunswick. It will grow on almost any character of soil, sterile or fertile, cold or warm, moist or dry. It is rarely sown, except on lawns, but comes up of itself, sometimes almost disappearing one year, and in another year completely covering woodland and field pastures, particularly when these are grazed by sheep. It does not cause bloat. The seed of this plant is difficult to obtain in quantities and is very high priced.

As a honey plant, white clover is very highly prized, for the honey produced from it is of the highest quality.

Alsike clover is a perennial plant and in this respect it is superior to red clover. There is no plant known that will produce so much honey, butter, cheese, beef, mutton, wool and hay per acre as this plant. It is of all clovers the least sensitive to acid conditions of soil, and it also thrives on soils that are too wet for other clovers. On boggy or swamp land, It is often found thriving in standing water and this indicates the pronounced adaptability of this variety to water-logged land or to land which is subject to flooding at certain seasons of the year.

This variety is very prolific in the yield of seed, occassionally yielding as high as seven bushels per acre. The seeds are borne in pods like those of White Dutch clover and contain from two to four seeds in a pod. As the seeds are so much smaller than those of red clover, much smaller amounts are sown per acre, usually not more than three or four pounds.

Alfalfa has been called the "wonder crop". Wherever it has been well established it has received great favor, It is a child of the sun and revels in heat that would destroy any other species of clover. It is a perennial plant. Various types have evolved, some of which are very hardy. One such type, suitable for introduction into our crop system is the Grimm. This variety has been successfully grown within 150 miles of the Arctic circle where it matured seed during the year 1913.

Clover has been called the cornerstone of agriculture, because it is the forerunner of all successful agriculture. A farmer who is two poor to sow clover is too poor to own a farm. The introdution of clover into British agriculture gave it a stability which has made it a pattern for us.

Good pasturage is the most economical means of feeding stock, while hay meadows and other forage crops are but an attempt to maintain or supplement the gains made by stock on pasturage.

The more important the animal production, the greater the necessity that forage crop production constitute the farm scheme.

Clover acts as the miller and baker faculty of adding organic nitrogen to the soil by means of the root nodules, and because of the penetrating character of its root system, it makes a greater feeding area available for other plants.

The area within our province annually seeded to grass and clover approximates one hundred thousand third of which is seeded with grass acres. Thirteen thousand acres sown to wheat and seeded down, two hundred thousand acres sown to oats, one third of which is seeded with grass and clover and forty-nine thousand acres sown to buckwheat, one-third of which is seeded to grass and clover.

At the low rate of four lbs. per acre of clover seed, costing 25c a lb., one dollar per acre, the cost of the clover seed used is $96,000.00, and most of this is paid to growers in Ontario and in the North Central States. It is not business. Our climate is well adapted to growing vigorous seed of potatoes, grains, grasses and clovers—all we need to have is a proper appreciation of the agricultural possibilities of our province and of the potential value to our agriculture of the clovers.

SHOEING OF FARM HORSES

(Continued from page 434)

they give no strength, nor too high, for then they do not clinch well, or, perhaps, they may not come out at all, but instead pierce the tender part of the hoof. The hoof is thinner than many persons suppose and care is always required to avoid driving the nails into the quick. No definite rules can be given for driving the nails; experience alone will teach the amateur that. It may be said that the straight side of the nail should always be toward the outside of the shoe. Use as small nails as will be necessary to

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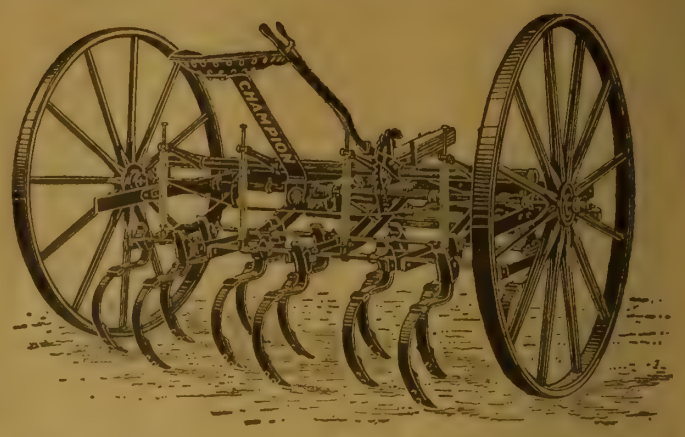
This is one of the most popular of the Frost & Wood Cultivators. Its best friends are the farmers who give it the hardest work.



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Yours gratefully,
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Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send FREE to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
WINDSOR, Ont.

to remain, and they will not injure the hoof so much as large and heavy ones.

When a nail has been driven into its proper place twist off the projecting point with the hammer claws, close to the hoof. When all the nails in the shoe have been treated in this manner, clinch the nails with the clinch tongs.—W. P.

IT PAYS TO TREAT OATS TO PREVENT SMUT

This is the time of year when farmers are making ready to sow oats. Most farmers know whether or not smut is present in their seed oats, but a considerable number of farmers do not know how significant oat smut is. Losses from this disease are commonly as high as 5% to 10%. They may run less, or may destroy 25% to 50% of the crop. The actual losses from smut are not often accurately observed in the field on account of the early spread of the smut-masses. The casual observer is wont therefore to underestimate the damage and lay the poor yields to other causes.

With but a small amount of trouble, and an expenditure not exceeding 2 cents per bushel, any farmer can treat his seed oats with formalin solution and eliminate the smut in one season. The treatment consists in sprinkling the grain with a solution, made by mixing 1 pint (1 lb.) of 40% formalin with 40 gallons of water. It is applied at the rate of one gallon to the bushel of grain, the grain being shoveled thoroughly during the application. The grain is piled after treatment and covered with wet cloth or canvas. After 8 to 12 hours the grain is spread out to dry. Further information will be gladly furnished upon application.

Wool is purchased by the manufacturer on the basis of the clean or scoured value. The dirt or foreign material incorporated in it is to him a waste product which is lost in the scouring process. The suint, yolk or grease may be saved, which in the refined state is known as lanolin and forms the foundation for the preparation of most salves used in medicine. However, the suint to the textile manufacturer is looked upon as a by-product, since facilities cannot always be installed to yield a profitable return for its preservation. An absolutely clean fibre can only be utilized in woollen manufacture. Therefore, it can readily be conceived how import it is to the manufacturer to recognize the degree of shrinkage of any wool, or in other words, the yield of clean wool after the grease and all foreign matter have been removed in the scouring process.

It is a common, but none the less erroneous, idea that electricity in the air at the time of a thunderstorm hastens the changes in milk. It is true that milk does sour quicker when a storm is approaching, but the reason is that the temperature is higher at that time. The milk is thus warmed more than usual and makes conditions more favorable for rapid growth of the germs present. This accounts for the very natural belief that the thunderstorm was responsible for the change.

When a cow is well along in her period of gestation an experienced man can usually determine whether or not she is in calf. It is done by placing the fist of the hand on the right side of the cow a little above the flank and then pushing in quickly. If the cow is well along in the period of gestation, the calf can be felt. If she is not, there is no way of determining wheth-

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No matter how fast it comes, the most unruly animal can't break through a Peerless Perfection Farm Fence — it springs back into shape.
Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped making the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.
Don't buy a rod of fencing until you get our illustrated Catalog. Describes our big line of farm, poultry and ornamental fencing. Also Peerless farm gates.
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Weak From Birth

Harriston (Ont.) Child Saved by Dr. Cassell's Tablets.

MR. CORBY, HARRISTON P.O., ONT., writes:—"Just a few lines in praise of Dr. Cassell's Tablets. Our little girl was weak from birth, and though we tried doctor's medicine and other things she got no better. She just lay in her cot and cried, and neighbours all said we could not save her. Then I read about Dr. Cassell's Tablets. I said to my wife, 'while there's life there's hope'; we will try these Tablets. We did, and from the first box we could see a change in the child. She seemed to rest more comfortably, and slept well at night. We kept on giving Dr. Cassell's Tablets till she was 18 months old, and now at three years I don't think there can be a healthier child in the whole Dominion.

Little Miss Corby.

The doctors said she had stomach trouble, and that her chances were small, yet Dr. Cassell's Tablets cured her. They have been worth their weight in gold to us, for we were just giving up hope of saving our little daughter. I don't think there is any other medicine for children like Dr. Cassell's Tablets. I may say my wife has taken them for nerves, and they have built her up splendidly. Publish this letter if you like: it may help others as the Tablets helped us."

Bright, healthy, happy children, full of life and activity—every mother wants her babies to be like that. Are yours? If they are not, if they are weakly or fretful—we say it in all sincerity—the surest way you will ever find to build up strength and vitality in their little frames is a course of Dr. Cassell's Tablets.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

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Nervous Breakdown	Sleeplessness	Mal-nutrition
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Specially valuable for nursing mothers, and during the Critical Periods of life.

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Jos. R. Taylor, Upper Dorchester, N. B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co.. N. B

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Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
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Pure bred shorthorn bulls all ages, several of excellent milking strain. Also hay in carload lots.

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EGGS FOR HATCHING
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The Ideal Farmer's Fowl. Layers of big white eggs and lots of them. **Eggs $2.00 per 30.**

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One pen choice birds. **Eggs $2.00 per 30.**

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poultry, mowing machine, horse rake, plow, harrow, cultivator, wagon, buggy, harness, maple sugar evaporator, tanks, 1600 buckets and spouts; 2,000 sugar maples, 60 apples and pears; estimated that wood and timber marketed should pay for entire property; 8-room house with cellar and running spring water; two barns; poultry, wagon and sugar houses; telephone, mail delivered, near neighbors. Invalid owner's quick sale price for everything $2750, with 1,000 down and easy terms. Immediate possession with income from the start. Travelling instructions to see it are on page 9, "Our Spring Catalogue." Write now for your free copy. E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston.

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We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

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A few Red Sussex Cockerels
This stock is the best money can buy
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FOR SALE—Registered White Boar Pigs for May delivery, also Collie Pups.—A. A. H. MARGISON, East Centreville, N. B.

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FOR SALE.—At a bargain pure bred Black Percheron Stallion, raising four years old; weight 1600 lbs.; a good individual.—ALBERT FLEMMING, Truro, N. S

CANADIAN POULTRY REVIEW has an active and interesting Maritime Department in each issue. Sample for the asking. 184 Adelaide St. West, Toronto.

FOR SALE—Two choice 6 months old Jersey bulls from heavy producing, high testing dams sired by one of the best Jerseys in N. S. To be sold reasonable for a quick sale. H. F. North, Canning, N. S.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

WANTED—Persons to grow Mushrooms for us at home; from $15 per week upwards can be made by using waste space in yards or gardens (start now); illustrated booklet sent free. Address MONTREAL SUPPLY COMPANY, Montreal.

EGGS FOR HATCHING—Parks Barred Rocks are the greatest laying strain of this variety bred to-day; bred for egg production for over twenty years. $1.50 per 15. Blanchard's White Leghorns, $1.50 per 15.—J. H. PRICHARD, Summerside, P. E. I.

SUPERB STRAWBERRIES—July 1st to Nov. 1st. Large stock of fine plants. We replace any that fail to grow. 10000 now in stock. $2.50 per 100 plants, postpaid, to any adddress. Everything i nursery stock. Write us for prices.—ST. JOHN VALLEY NURSERIES, Burton, N. B.

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BRONZE TURKEY EGGS from large hens, headed by 45 lb. gobbler. $4.00 per 9. Bred-to-lay B Rock, W. Leghorn, W. Wyandotte eggs, $2.00 per 13. Guinea eggs, $1.25 per 9. Guinea fowl (cock and two hens), $4.00. Stamps for information.—HOTEL DIEU FARM, Chatham, N.B.

R. O. P. HOLSTEINS !

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

THE RELATION OF GOOD ROADS TO THE AGRICULTURAL DEVELOPMENT OF NEW BRUNSWICK

(Continued from page 449)

Rural free delivery brings the farm within the daily range of the activities of the world and the isolation and monotony which has been the bane of country life are lessened to a considerable degree.

A good roads system would enable the mail-carrier to serve a much longer route and would even enable him to make use of the automobile. By this means the parcels post might eventually become an actuality and an instrument to facilitate the marketing of farm products.

The immediate effects of good roads upon the marketing problems and community situation are:—

(a) More easy intercourse is afforded between members of rural communities and also between rural and urban populations.

(b) A wider choice of markets is given, also an extension of time for the marketing of imperishable crops.

(c) An extension of the area devoted to fruits, vegetables and produce of a perishable nature, usually grown near large cities.

(d) An equalization of railroad traffic between different periods of the year.

The effect of good roads in creating community wealth is attested by the increase in the value of land in any community so served. The tendency is often to change rural districts into suburban property. Vacation residents are more easily secured and tourist travel is induced. This latter phase of the good roads movement should be taken up locally by the municipality and every effort made to attract it, for it has proven a source of community profit.

The problem affecting the rural situation in our province to-day is not only one of production but also how to make farm life satisfying in measures of happiness and prosperity. This implies the providing of **social conditions** (such as would be brought about by the building up of village centres) and **distributive facilities**, which will give the farmer a larger share in the price paid for his products by the ultimate consumer.

The highway is the great link of human intercourse; it raises social standards, it is a factor in our national, social and business life. Better roads, then, will contribute to efficiency in our national and business life, to social and educational advantages and prove a potent factor for the future industrial expansion and agricultural development of this province.

O. C. Hicks, B. S. A.

BACK YARD POULTRY KEEPING.

Town and city back yards should be utilized more generally for poultry than is now the case. Back yard poultry keeping pays next best to farm poultry, if not as well. There are many back yards and vacant lots that cannot be used for vegetable growing where poultry might be raised profitably. By means of a broody hen or an incubator, chicks may be hatched and afterwards brooded quite successfully on such lots. The broilers can be disposed of during the summer and the pullets kept for the production of eggs in the fall. If hatching is not practicable, day-old-chicks may be purchased. Another alternative is to purchase pullets in the fall, feed for winter eggs, and sell in the spring to make room for the garden. Only a cheap winter house is required, and when table scraps are judiciously used in the ration, the bill for feed necessary to produce winter eggs is comparatively small. Many a school teacher, stenographer or bookkeeper might add health and variety to his or her occupation, increase the income and have the satisfaction of helping to keep home fires burning by spending leisure time producing poultry products.

FARM POULTRY.

The farm flock always pays when given proper care. Production here might be materially increased with very little additional labour or expense. Adopt system in your work, and put the management of the poultry plant into the hands of a boy or girl. One farmer in Eastern Ontario made $4.00 per cwt. out of his feed grain by selling it as new laid eggs. If one can do that, others can. Feed is dear, but so are eggs.

Breed from bred-to-lay strains; market the eggs when new-laid; distribute the sale of table poultry over as much of the year as possible; cull out. the .weaklings and feed intelligently. Increased production will follow, resulting in a larger surplus to meet Great Britain's demand for eggs.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Eggs for Hatching

From two pens of pure bred White Wyandottes, parent stock from Martin and Beulah Farm strains. Also from one pen of Single Comb Rhode Island Reds, good laying strain, good color. Price $1.25 per 15.

HATTIE E. CROWE,
Lower Truro, - - - N. S.

LABELS

Live-stock Labels for cattle, sheep and hogs, manufactured by the **Ketchum Manufacturing Co.**, Box 501, Ottawa, Ont. Write for samples and prices.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

Do You Want It ?

One 200 Egg Peerless Incubator also Brooder to match. These were only used for two hatches and are in every way first class. Write and find out all about this chance if you are interested. Remember there is a bargain for somebody—it may be you.

T. J. HAWKINS,
Stewiacke, Col. Co., N. S.

YOUR CHURCH, YOUR SCHOOL, YOUR AGRICULTURAL SOCIETY

When a stranger visits a community, he or she is customarily taken around to see the various points of interest.

Man's first duty is to his God, consequently the community church should be one of the edifices to which residents may point with pride. If the proper community spirit prevails, and it will prevail if there is a live Women's Institute operating there, although the church building may not be very pretentious, it will be neatly kept both inside and out, and the grounds will be as attractively arranged as possible. We have seen such places in many sections of the Maritime Provinces. The impression created on the mind of the stranger and the value of the uplift such conditions give a neighborhood, can never be measured in dollars and cents.

We believe a great deal of the social life of a community should centre around their church. We see no sane reason why the community church should not be used more extensively than it is for matters of community interest. We have a number of pastors of all denominations who are not only leaders in spiritual matters, but who also lead in temporal affairs. May their number increase! The pastor who thinks it beneath his dignity to take part in a leadership of this kind, is missing one of the big opportunities that is within his reach for the uplift, morally, spiritually and temporally of the members of his flock.

The public school should also be a centre of interest. The school and its surroundings should be made healthful, attractive and cheerful for the children, the men and women of tomorrow, who there spend so much of their youthful lives. The condition of a school and its grounds in a great measure reflects the character of a community. Use it for community work.

Have you an agricultural society in your vicinity? If so, is it a live Society? A Society that is accomplishing results. If it is not just as live an organization as you would like, why not get at the root of the matter and try to discover where the trouble lies? Can you not do something to liven it? There are so many ways in which a live Agricultural Society can serve a community. Every class of tradesmen have their trade organization in which they take a great deal of pride, and which helps them in their respective avocations. We know of many Agricultural Societies that mean a whole lot to the communities where they are located. Your Agricultural Society can serve you and your neighbors. If you have been inclined in the past to knock the Society, change the tactics and try "boosting" for a while.

If you do not have an Agricultural Society in your parish, why not talk the matter over with your neighbors and seek for information as to how to get one organized. The Secretary for Agriculture for your Province will gladly furnish the necessary information and assist you.

We know of no organization that will place more money in your bank account than will a live Agricultural Society.

We know several Agricultural Societies that have been effecting a saving of from $5.00 to $15.00 per ton, according to grade, for their members on fertilizers purchased. Others purchase seeds, feeds and other commodities and deliver same at cost and charges to their members. Then there is the co-operative purchase of live stock and farm implements. Seed fairs, Standing Crops competitions and local exhibitions are also branches of activity and service

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is the Paint that covers the greatest surface—that takes the shortest time to apply—that wears the longest. Martin-Senour "100% Pure" Paint does all three. Here's the proof. "100% Pure" Paint covers 900 square feet of surface per gallon.

Hand-mixed-lead-and-oil, and cheap prepared paints, cover only about 500 square feet.

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Why use cheap paint—that is expensive to put on—when Martin-Senour "100% Pure" Paint wears nearly twice as long?

If you are painting this year, you'll be interested in our books—"Town and Country Homes" and "Harmony In Neu-Tone". Write for copies—free. 105

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PASTURE MIXTURES

The grasses used for pasture purposes may be roughly divided into two classes: the bottom grasses and top grasses. By bottom grasses are meant such as develop their heaviest vegetative growth near the ground. Bluegrasses, redtop, brome grass and the clovers produce a low and dense growth. The top grasses attain a greater height and will produce a heavy growth further from the ground. Typical top grasses are orchard, timothy and tall oat grass. It is evident that for an ideal meadow, it would be advantageous to use a mixture of top and bottom grasses to produce a deep, dense growth of hay. Such a meadow, while producing a heavy crop of hay, would also develop a heavy aftermath or aftergrowth, furnishing pasturage until late in the season. For pasture purposes only, the top grasses lost most of their value because the close cropping that they are subjected to under pasturage prevents them from developing anything but a low ground growth.

There are a number of reasons in favor of using a mixture instead of a pure culture:

1. The root systems of grasses vary in depth, so that a mixture will have more thorough distribution of roots through the soil. Brome grass, for example, will go very deep, extending as far down as four to five feet. Bluegrass is very shallow rooted, producing its maximum root development in the upper six to eight inches. Timothy will occupy an intermediate region.

2. Plants differ in the utilization of plant foods in the soil, and where one grass requires a relatively large amount of some certain plant nutrient, another grass in the pasture may require only a small amount of the same. The plants are, therefore, not direct competitors of one another.

3. A mixture will suffer less loss by insects or disease since these are usually confined to one plant species in any one season. The same effect will also be noticed in case of drought. Some grasses resist drought more than others and will continue to grow, or at least remain green, during a period of drought. The reverse is also true, that is, in a wet place some grasses do not develop, and even die. Such grasses as orchard and Canada bluegrass will develop under both extremes. Red top and alsike clover will do well in the wet part of the meadow, and brome grass and sheep fescue will do well in the dry portion. Timothy, red clover and Kentucky bluegrass do not do well in either extreme, requiring medium conditions.

4. Legumes will aid the growth of neighboring grasses and even improve their composition by increasing the protein content. The grass mixture will thus tend to produce a more balanced feed.

5. A mixture will adapt itself better to a varying soil. In every field the soil varies in moisture, fertility, or physical condition, and any one grass can not develop equally under all conditions. There is an optimum field condition for each grass, and a good grass mixture on a field having varying soil types will be elastic enough to adjust itself to each difference and so produce the maximum yield.—Jersey Bulletin.

Just see what splendid, snowy white, delicious bread it makes!

Never in the history of the world did good bread mean so much to you as it does now. It helps to reduce the high cost of living by lessening the amount of expensive meats necessary, and is the cheapest, most nourishing and most extensively used food known. Decidedly you should have none but the best flour for your bread. That is why we can so heartily recommend

Cream of the West Flour

The hard wheat flour that is guaranteed for bread

None but the finest quality Western wheat, and unsurpassed facilities could produce such splendid flour for bread. You can see for yourself how rich it is in nutritious, body-building gluten. The gluten imprisons the gas formed by the yeast, thus enabling your bread to rise right away up out of the pans, making splendid big bulging loaves, light and flaky and full of fine home-made flavor.

Cream of the West flour is guaranteed. If for any reason you are dissatisfied with it, return the unused flour to your dealer along with this advertisement (our guarantee). He will return your money, and we will repay him.

Ask our Domestic Science Experts for advice

Bewildering little problems often arise in baking bread and pastry in spite of the most careful attention to recipes and directions. Bubbles or large holes sometimes appear in the bread for no apparent reason. The biscuits, you have to admit, are not always up to their usual standard. The steam pudding may become mysteriously soggy; obviously it is not the fault of either recipe or ingredients. The expensive fruit cake is burned on the outside and uncooked in the centre. *Why?* Our Domestic Science experts will gladly tell you the reason so you can avoid difficulties next time.

All you have to do to get our help is to write us a letter in your own words giving details of your baking problems. Give us the name of your dealer; also state what flour you are using. Whether you are using our flour or not we will promptly reply giving you the information desired. Write to-day. Address, Domestic Science Department, care The Campbell Flour Mills Company Limited, Toronto, Ontario.

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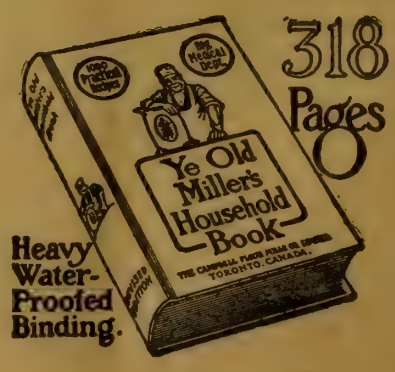
In every barrel, ½-barrel or sack you will find a colored library card. Collect these cards and send them to us in exchange for such splendid books as "David Copperfield," by Dickens; "The Three Musketeers," by Dumas; "The Last Days of Pompeii," by Lytton; "The Talisman," by Sir Walter Scott; "Henry Esmond," by Thackeray; "The Woman in White," by Wilkie Collins; "House of the Seven Gables," by N. Hawthorne. Also a splendid list for boys and girls. Complete list of titles and instructions how to get books is printed on every card. Try our flour and get card.

Ye Old Miller's Household Book has, in addition to 1000 splendid recipes, an extensive medical department dealing with accidents, sickness, etc. No home should be without this valuable book.



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LATE BLIGHT OF POTATOES & ITS CONTROL

By Geo. Patrick, Inspector of Plant Diseases, Fredericton, N. B.

The Late Blight and Rot of the potato is generally known and recognized by all potato growers. It is one of the oldest potato diseases and it has been the cause of great disaster in many potato growing regions before methods for its control were known. The serious famine in Ireland in the middle of the last century was largely due to the failure of the potato crop, a failure caused by the prevalence and unusual destructiveness of Late Blight. A careful study of the disease has shown that on the American Continent it is largely limited to New England and the Northern States, extending into the potato growing regions of this country. It has been found to be largely distributed in Europe and may be disastrous throughout Great Britain, as well as east and west from Russia to France, extending even as far south as Italy. The serious importance which this disease may attain is largely dependent on climatic conditions, for it has been shown that it is usually more prevalent and active when favoured by warm moist weather. As a rule the fungus appears during the latter part of July and it is most abundant during August and early September. A few days of rainy weather suffice to give it a start and its distribution is then accomplished with great rapidity; whole fields may be devastated within a period of only a few days of such weather.

From a survey made in 1915 of the potato fields in different sections of New Brunswick, it was estimated that out of a loss of 47% to the total possible crop, Late Blight was responsible for 25%' or more than one-half of this loss. The total possible crop was estimated at 12,000,000 bushels, or, valuing potatoes on the moderate estimate of 50 cents per bushel, it caused a financial loss of $1,500,000. On the other hand, Late Blight is not the most serious disease if proper precautions are taken, because effective means have been discovered for its control, which is not yet the case with some of the other diseases.

Late Blight is caused by a fungus which lives during the winter in or on tubers infected with Late Blight dry rot. When an infected tuber is planted, the fungus often develops with the sprout. Sometimes these infected sprouts die before they reach the surface of the ground, but more frequently they produce diseased plants on which the spores or seed, as they might be called, of the fungus develops. The disease first makes its appearance on the leaves of the plant as irregular spots with a dark water soaked appearance and disagreeable smell. In fine weather these spots dry up and become brown. If the weather is moist they increase in size and number and rapidly destroy the whole plant. Also in moist weather the fungus usually appears on the lower surface of the leaves, around the margin of the infected spot; this however is not always apparent to the naked eye. Numerous spores are produced from this growth which are so minute that they are easily carried by the wind, to other sections of the field, and being distributed on potato leaves they will germinate and reproduce the disease, besides this, on falling to the ground they will work their way through the soil and attack the tubers. Thus the planting of diseased seed is almost sure to serve as the initial source of infection.

The leaves, as is well known, play a very important part in the assimilation of food, and if they are destroyed, few tubers can be fully developed on the plants. For this reason, the earlier Late Blight appears in the field, the more severe will be the loss. On the other hand, should the disease make its appearance later in the season, the tubers that have been already formed become infected and are thus rendered unfit for seed or table purposes.

Diseased tubers are characterized by a brownish dry decay of the outer tissue, which shows on the exterior as dark sunken areas. If the soil is heavy and wet, this dry rot is followed by a soft, ill-smelling rot, which may destroy the entire tuber. Infected tubers when stored, will rot and decay, especially when there is little ventilation through the heap. Since this is the case, as in many other diseases affecting the potato, it is unsafe to plant unsound tubers under any circumstances; nothing is known of any practical treatment to prevent the reproduction of the disease. The tubers to be used for seed should be selected immediately after harvest and should be stored by themselves in a dry, cool cellar.

There are two other diseases of the vine which are often mistaken for Late Blight. One of these is Tip Burn which occurs during dry, hot periods, following moist weather which has produced rapid and tender growth. This burning is due entirely to weather conditions, but may be prevented by the same treatment as applied for the control of Late Blight.

The other is Early Blight, a fungus disease which attacks the plants earlier in the season, but the spots caused by this, are more restricted than in the case of Late Blight and have to a slight extent the appearance of a target, due to concentric rings which develop. The spots are usually small. This disease may also be held in check by spraying.

Late Blight can in a great measure be controlled by the application of Bordeaux Mixture to the plants in the field. It is realized that a great many growers of potatoes make a regular and systematic practice of thoroughly spraying their crops and who have found this practice very beneficial. There are others who do not practice it so thoroughly and systematically and who become discouraged because better results are not obtained. There are also others who do not practice it at all, but who claim that they get good crops and do not suffer any more less than those who spray regularly. However, experiments have proven that spraying is a good form of insurance against Late Blight and have shown that even though a good crop may in some years be obtained without using Bordeaux Mixture, a far better one, containing a larger percentage of marketable tubers can be raised as a result of thorough and systematic spraying.

A number of experiments at the Experimental Stations and on private farms both here in this province and in the Province of Quebec, have been conducted during the past two seasons under the supervision of Mr. G. C. Cunningham, who is in charge of the Dominion Plant Pathological Labratory, Fredericton, which have proven of great interest and shown conclusively that spraying potatoes regularly and thoroughly is a paying proposition. In 1915, the results of these experiments were very apparent for the reason that Late Blight was more prevalent on the foliage in that year than in 1916. However, at digging time in both seasons it was found that the sprayed portions of the fields in each instance gave a far larger yield of potatoes than the unsprayed portions. The foregoing are some of the results obtained from crops where part was sprayed six times, part four times and part left as a control or check.

Another experiment conducted in this sections of the Province of Quebec with a 4:4:40 Bordeaux Mixture, produced still better results. A field belonging to a farmer living a few miles from Lennoxville was sprayed six times, with a portion left unsprayed. When the crop was harvested it was found that there was a yield of 273 bushels per acre from the field, while from the portion left unsprayed a yield of only 210 bushels per acre was obtained; a difference of 63 bushels per acre, or valuing the crop at $1.25 per bushel, a financial gain of $78.75 per acre.

At the Experimental Station, Fredericton, an experiment was conducted on two plots of Green Mountains and on one plot of Irish Cobblers. Six applications were made at intervals of two weeks, a portion of each plot being left unsprayed. The following results were obtained:—

RESULTS FROM A TEST CONDUCTED AT FREDERICTON JUNCTION, USING A 4:4:40 BORDEAUX MIXTURE.

Variety.	No. of applications of Bordeaux Mixture.	Marketable per acre.	Unmarketable per acre.
Green Mountain	6	315 bushels.	12 bushels.
Green Mountain	4	224 bushels.	27 bushels.
	Control (not sprayed)	172 bushels.	33 bushels.

Difference in 6 applications over 4 applications 91 bushels per acre.
Difference in 6 applications over Control 143 bushels per acre,
or valuing potatoes at $1.00 per bushel, a gain of $143. per acre.

RESULTS FROM A TEST CONDUCTED AT LENNOXVILLE, QUEBEC, USING A 4:4:40 BORDEAUX MIXTURE.

Variety,	No. of applications of Bordeaux Mixture.	Marketable. per acre.
Green Mountain	6	307 bushels
Green Mountain	4	294 bushels.
	(Control (not sprayed)	257 bushels.

Difference in 6 applications over 4 applications 13 bushels per acre.
Difference in 6 applications over Control 50 bushels per acre.
Difference in 4 applications over Control 37 bushels per acre.
or, valuing potatoes at $1.25 per bushel, which was the price obtained for the crop from this particular field, the financial gain from six applications over four applications was $16.25 per acre, from four applications over Control, $46.25 per acre, and from six applications over Control, $62.50 per acre.

RESULTS FROM A TEST CONDUCTED AT THE EXPERIMENTAL STATION, FREDERICTON, USING A 4:4:40 BORDEAUX MIXTURE

Plot.	Variety.	No. of Applications.	Yield of Marketable per acre.
1	Green Mountain,	6	250 bushels
1	Green Mountain,	Control (not sprayed)	166 bushels
2	Green Mountain,	6	235 bushels
2	Green Mountain	Control (not sprayed)	169 bushels
3	Irish Cobbler,	6	291 bushels
3	Irish Cobbler,	Control (not sprayed)	228 bushels

These results show a gain from the use of Bordeaux Mixture, of 84 bushels per acre in Plot 1, of 46 bushels per acre in Plot 2, and of 63 bushels per acre in Plot 3.

A further experiment conducted at Grand Falls during the season of 1915, showed at harvest time an increase in the crop harvested from the sprayed portion of the field of over 100% over that from the unsprayed portion. A double application was made each time in this experiment, that is, the rows were sprayed both ways, for the reason that the season was fairly well advanced before the first application was made, consequently the plants had made considerable growth. The following are the figures:—

RESULTS OF A SPRAYING TEST CONDUCTED AT GRAND FALLS, USING A 4:4:40 BO RDEAUX MIXTURE.

Variety	No. of applications.	Yield of Marketable potatoes per acre.
Carmen No. 1	3 (both ways)	282 bushels
Carmen No. 1	2 (both ways)	261 bushels
Carmen No. 1	Control (not sprayed)	119 bushels.

These results show an increased yield from the portion which received three applications, of 163 bushels per acre over the unsprayed portion, and an increased yield from the portion which received two applications of 142 bushels per acre over the unsprayed portion, or a financial gain of $163.00.

A number of experiments have been conducted and the results recorded, in addition to those set forth above, but sufficient are given here to show that, allowing for the price of labour and materials which during the past season were considerably in advance of those of previous years, there is a wide margin of profit to be obtained from following the practice of keeping potatoes regularly and thoroughly sprayed.

It will be observed that these experiments were conducted with what is known as 4:4:40 mixture. This was found very effective. To obtain some information with regard to the value of different strengths of Bordeaux, an experiment was conducted last season at the Experimental Station at Fredericton which gave the following results:

Mixture	No. of applications	Yield of marketable potatoes per acre.
4:4:40	6	435 bushels.
3:3:40	6	487 bushels.
4:4:40	4	469 bushels.
6:6:40	4	468 bushels.
Kiltone, 20 lbs. in 40 gallons of water	4	435 bushels.
Kiltone, 10 lbs. in 40 gallons of water	4	391 bushels.
6:4:40	4	379 bushels.
Control (not sprayed		316 bushels.

One of the chief points in obtaining good results from the use of Bordeaux Mixture, is its proper preparation. Bordeaux Mixture must be made up freshly each time it is used. However, copper sulphate and lime may be each dissolved in water and kept for an indefinite time; if sufficient barrel capacity is available, enough to last throughout the season may be prepared at one time. The vessels in which these materials are dissolved should be of wood. Iron vessels should be avoided when dissolving copper sulphate or preparing Bordeaux Mixture, for the action of copper sulphate on iron causes it to quickly become corroded.

Fill a barrel according to its capacity with water and for every gallon of water dissolve one pound of copper sulphate by tying it in a bag and suspending it just beneath the surface of the water until it dissolves. Thus there is one pound of copper sulphate in every gallon of the liquid, and when making a 4:4:40 mixture, all that is necessary is to measure out four gallons. The barrel must always be kept covered to prevent evaporation.

Place a corresponding amount of quicklime into another barrel of the same size and slack it thoroughly. Do not use too much water in slaking. When the lime is all slaked, add sufficient water to make a milk of lime containing one pound of lime in each gallon of the liquid. Keep this also covered.

The above two preparations are called stock solutions and to make forty gallons of spray from these solutions, the best way is to run sixteen gallons of water into the tank of the spraying machine, add four gallons of the stock solution of lime and stir well. Then dilute four gallons of the copper sulphate up to twenty gallons by the addition of water, strain this into the spray tank and mix thoroughly. Do not mix the copper sulphate solution and the milk of lime together before diluting them as the mixture made in this way is not so effective.

The poison for the Colorado Bettle may be applied with the Bordeaux as often as may be necessary. Either Paris Green or Arsenate of Lead or both may be used. Arsenate of Lead sticks better but Paris Green is quicker in action, so that it is safer to use both. Half a pound of Paris Green and one pound and a half of Arsenate of Lead to forty gallons of spray will prove effetive in most cases, unless the attack is very severe, in which case, these quantities may be increased.

The spraying experiments which have been conducted were not done with any particular make of sprayer, neither have we made any tests relative to the commercial value of different types, we are therefore not in a position to make any recommendations in this regard. We however would reommend a sprayer which has three nozzles to each row, that is, one nozzle to spray directly on the top of the plant and a pipe dropping between the rows with a "T" on, so as to be able to spray the lower leaves of the plant. This attachment will not be found on the sprayers but in most cases it may be had by special application.

Spraying should be commenced about the middle of July, or when the plants are about eight inches high, and continued throughout August and September.

The apparent difficulty in some instances, of getting through the rows in the latter month, without doing a good deal of injury to the plants, owing to their closing in, should not prevent spraying being carried on. Any little injury that may be caused, will be of insignificant proportions when compared with the increased yield and soundness of the crop due to spraying.

To obtain the best results from the use of Bordeaux Mixture, thoroughness is absolutely assential. It is almost useless to go over the field with the pump not in complete order or the nozzles not doing their part. All parts of the machinery should be kept in good repair; the incorrect working of even one nozzle may make a great difference in the results obtained. The whole of the plant must be covered with the mixture as infection can take place on any part of it, therefore the nozzle plays a very important part. It should send out the spray in the form of a fine mist, the finer the better. The nozzles should be brought into play a few feet from the end of the rows, thus giving the plants at the end an equal chance with the others.

Fifty gallons per acre is sufficient for obtaining satisfactory results during the early part of the season, but later, as the plants increase in size, seventy-five gallons should be used.

New Brunswick in Line For Increased Production

Despite the fact that the seeding season was close at hand when Hon. J. F. Tweeddale assumed charge of New Brunswick's Agricultural Portfolio and secured as his Deputy, Mr. W. R. Reek, one of Canada's ablest agricultural leaders, the question of increased production in the province has been ably grappled, and indications from all quarters point to united efforts for the promotion of this worthy cause.

The Conference held in Fredericton early in May, as stated in our last issue, was exceptionally well attended and particularly so, when one considers the brevity of the time in which the notice of meeting was issued.

The general committee appointed at the conference responded to a call to meet in Fredericton a few days later, when ways and means for carrying on the work were discussed and a strong executive to work in conjunction with the Department was appointed.

Seed grain and potatoes to the value of upwards of $26,000 have been distributed and paid for by farmers in cash or bankable notes, so that the money expended will be eventually returned to the Provincial Treasury, and a great deal of assistance in time of need will have been accomplished. Many farmers who would have had to go without seed to crop their cultivated areas, will now be able to do all that lies in their power to place the farmers on a plane with their brother farmers in other provinces of Canada in the great production campaign.

If there is one department more than another that should not be bothered by political interference, it is the Department of Agriculture. We have every faith in Mr. Reek as director of New Brunswick's Agricultural policy. He is a young man who has made good in every office which he has held since boyhood, and from what we know of him and his methods in handling men and momentous problems, we know he is the right man in the right place.

One of the policies of the New Brunswick Department of Agriculture, will be to put the very best men available regardless of political stripe, in the field. These men will be given a free hand and will be required to give an account of their stewardship.

We understand District Representatives will soon be appointed in several counties and their number will be increased as rapidly as competent men can be secured. The District Representative system is working a progressive revolution in agricultural matters in Ontario and other parts of Canada, and we feel confident that the farmers of New Brunswick will appreciate the services of the men who will be appointed to work with them in their respective counties. These men will have a practical and scientific knowledge of agricultural matters and farmers who will avail themselves of the advantages of service rendered by the representatives will profit thereby.

There are some people who are always skeptical about new ideas, and one does not have to listen to them very long in order to get their full measure. Cases are on record where men who came to scoff, remained to pray. We have repeatedly met cases where skeptics in agricultural matters have experienced a change of heart and profited thereby. Any farmer who keeps abreast of the times, knows the value of the services of District Representatives, and will be pleased to work with them.

The work of a District Representative helps to bring community interests in closer touch with each other. The best ideas for performing and conducting operations are crystalized and interchanged among the farmers of a community, and the uplift in a very short time is quite noticeable. We bespeak for the District Representatives of New Brunswick the hearty co-operation of our farmers.

CHECK INDIVIDUAL YIELDS

Contrasts of various kinds occur in many dairy herds. The eighteen cows in one herd in Ontario last year gave an average yield of 7,494 pounds of milk, 3.4 test and 259 pounds of fat. The individual tests varied from 3.0 to 4.3 per cent of fat as an average for the full lactation period. One cow gave 10,420 pounds of milk; another 7 years old, gave only 6,290 pounds; think of it, four thousand pounds less! One dame of eighteen summers gave 270 pounds of fat, and a two year old gave 237 pounds.

The highest yield of fat was 337 pounds of fat from a 7-year-old, another 7-year-old gave only 205 pounds of fat. If these two cows were fed grain in proportion to yield of fat, no expensive feed need have been misused.

A herd of seventeen cows close by averaged only 155 pounds of fat. It pays to find out just what individual contrasts are included in averages.

Another herd of 11 cows within a mile or two, that included five two-year-olds, averaged 7,780 pounds of milk and 297 pounds of fat. A two-year-old gave 219 pounds of fat, and an 8-year-old gave 390 pounds. Full information as to cow testing may be obtained on application to the Dairy Commissioner, Ottawa. C. F. W.

FIELD BEANS IN CANADA

By W. L. Graham, B.S.A., Assistant Field Husbandman

Field beans comprise many types of which the bush or dwarf varieties, including the kidney and haricot types, are grown for the production of ripened seed for human food.

Value

Beans have a two-fold value. They rank among the valuable foods, containing a higher percentage of protein than wheat or oats and even meat. Beans are also of value from a soil cultural aspect as they belong to a most impoirtant class of agricultural plants termed legumes which are capable of taking up indirectly the free nitrogen of the air and storing it in tubercles on the root systems of the plants in an available form of plant food for future crops.

Production in Canada

In Canada the production of field beans, commercially, has been carried on for the past sixty years, being confined largely to Southern Ontario. In the year 1916 according to the Census and Statistics Reports of the Dominion Department of Trade and Commerce, an area of 32,500 acres was planted to beans. The average yield per acre was 12.7 bushels with a market value of $5.40 per bushel. The total value of the crop was $2,228,000. It will be recalled that in certain districts in 1916 conditions for cropping were very unfavourable. These conditions prevailed in our best bean-producing sections with the result that the average yield per acre is low. In normal seasons in the past the yield per acre has been approximately 17 bushels.

At the present time field beans are grown in four provinces of the Dominion of Canada. In 1916 Ontario had a yield of 317,000 bushels; Quebec, 78,000 bushels; Nova Scotia, 13.800 bushels, and New Brunswick, 3.800 bushels. Thus in the past season 76.8 per cent of the beans produced in Canada, were grown in the province of Ontario.

Soil

Many types of soil are suitable for the growing of beans providing there is good drainage. Underdrainage is not absolutely necessary but is advisable here as with other farm crops. If a choice of land can be made select rich loams and sandy loams. Clay soils, however, in a good state of tilth may be expected to grow beans satisfactorily.

Rotation

In the rotation, beans should follow clover hay, pasture or meadow. They fall in the hoed crop class hence assist admirably in the preparation of the soil for grain crops and the accompanying seeding mixtures of grasses and clovers which should follow for best results.

Manurial Requirements

Applications of barnyard manure in fairly liberal quantities may be expected to produce a profitable crop of beans. A good dressing of well-preserved manure at the rate of 10 to 12 tons per acre, once in three or four years is sufficient. The application may be made in the fall, winter or spring or during the preceding summer. The manure, if ploughed in, should not be buried too deeply, but whether ploughed in or disced in, it should be thoroughly incorporated with the soil. Commercial fertilizers have not been used to any great extent in Canada nor are they likely to prove profitable where suitable dressings of barnyard manure are given and judicious crop rotations and cultural methods are practised.

Preparation of the Soil

Where it is necessary to use clay land for beans, it is generally advisable to plough in the autumn, turning a well set-up moderately deep furrow approximately 6 to 8 inches deep or as deep as the surface productive soil will allow. If lighter land is available good results may be expected from spring ploughing where the furrow is turned flat and not deeper than 4 or 5 inches. In either case the manure may be ploughed in or worked in on the surface with the disc harrow. A suitable seed-bed is fine and mellow at the surface but fairly firm underneath, which condition is obtained only by combined effort and thought on the part of the grower coupled with judicious use of the disc harrow, roller and drag harrow. The success of the crop depends largely upon this feature of thorough soil cultivation before seeding.

When to Sow

As soon as weather and soil conditions will permit, beans should be sown. The last week of May or the first week in June is usually the most suitable time for planting, although the time of planting may vary slightly according to district and season, but should not be delayed after the soil has become warm and dry.

Method of Seeding

Field beans are usually planted in rows 28 inches apart. The plants should be spaced from four to six inches apart in the row, but in seeding it is advisable to sow more thickly than this and thin to the required distance when the plants appear.

For planting special bean planters are available, but where the grower has a grain seeder that sows in rows, it can, by having some of the seed spouts closed, be used as a bean planter and thus save the outlay for a special implement.

The depth of planting will depend upon the kind of soil and its conditions with regard to heat and moisture.

The amount of seed per acre will depend upon the size used. From 3 to 5 pecks of seed will give a satisfactory stand.

Seed

Only well developed, well-matured, uniform, sound seed of strong vitality should be used. Beans from plants infected with the common disease known as anthracnose or pod spot, should not be used for seed. Diseased seed will usually produce diseased plants and infection may be spread to healthy plants. Hence it is advisable, where possible, to select the future supply of seed from the growing crop, from healthy parent stock.

The vitality of the seed can be learned by conducting a germination test. This test can be made at home by planting a uniform sample of the seed in a pot of moistened soil placed in a bright warm position, the living room being a very suitable location.

Good seed should produce uniformly strong sprouts in a period of five or six days.

Varieties

Some of the best yielding varieties of field beans are Pearce's Improved Tree, Schofield Pea, Medium or Navy, Common White Pea and White Wonder. These varieties require from 112 to 115 days in which to reach the proper stage of maturity for harvesting.

Cultivation

After planting, but before the plants appear, which will usually be from three to six days depending largely upon the weather, it is advisable to harrow the soil lightly with a slant-tooth harrow or even a light smothing harrow. This operation will break the crust, destroy weeds, help warm the soil and stimulate rapid germination of the seed and growth of the plants. As soon as possible after the beans are up, and can be seen in the row, the single and two-row cultivators should be used. It should be the aim of every grower to keep the soil stirred on the surface. Thus as promptly as practicable after each rain and in time to prevent the forming of a crust the soil should be stirred by means of the cultivator. The work of cultivation also should be kept well in hand early in the season so that little cultivation need be given after the blossoming stage of growth has been reached,

Hand Work

Usually a certain amount of hand-hoeing is necessary and this operation may be very much reduced by prompt and thorough hoeing in the early part of the growing season.

Harvesting

Where there is enough help or where small areas only are grown the beans may be pulled by hand. For large crops of beans it is generally profitable to use bean harvesters which consist of the ordinary two-wheeled cultivator equiped with two flat knives placed to form a V cutting two rows at a time and placing both rows into one windrow. The beans may be bunched by hand or by means of the side delivery rake which places from three to five rows together. After cutting, the beans should be kept clean and should be stored with as little weathering as possible.

Threshing

Specially constructed threshers are available. Sometimes with special arrangement the common thresher can be used; however, by this means there is more loss through beans being broken or split. These cannot be sold either for commercial or for seed purposes. For small quantities or for a special variety grown for seed it is often advisable to do the threshing with the flail.

Cost of Production

Cost of growing one acre beans at current wages for manual and horse labour and prices for seed:—

Ploughing	$ 2 50
Dis harrowing	2 00
Harrowing	50
Seed, 45 pounds at 15 cents per pound	6 75
Planting	50
Harrowing (1), cultivating (7) times	4 00
Hoeing, 2 days	4 00
Cutting	1 25
Bunching	1 00
Hauling	90
Threshing	1 50
Cleaning and bagging	50
Rent of land and use of machinery	6 00
	$31 40

From an acre of beans worked as indicated, from 12 to 18 bushels might be expected. Taking 15 bushels as an average crop, then one bushel ready for market would ost $2.09.

Equipment

Cost of extra equipment necessary for bean cultivation and harvesting:—

Double cultivator with harvester attachment	$60 00
Single cultivator	10 00
Total	70 00

Summary.

(1) The bush or dwarf varieties of beans are grown for the production of ripened seed for human food.

(2) Beans provide a concentrated and very valuable form of food.

(3) Beans are a valuable crop in a rotation, leaving the soil in a very suitable condition for following crops.

(4) In 1916, 76 per cent of the beans produced in Canada were grown in the province of Ontario.

(5) Beans will grow on any well-drained and well-manured soil.

(6) Thorough soil preparation is necessary for success.

(7) Beans should be sown as soon as weather and soil conditions will permit, that is, when the soil has become warm and fairly dry.

(8) Beans are usually planted in rows about 28 inches apart, the plants being thinned from four to six inches apart in the row.

(9) Sow seed, free from disease, of strong vitality and of reliable varieties.

(10) Cultivate as necessary to keep the surface soil stirred and free from weeds.

(11) Harvest the beans when dry and clean and with as little weathering as possible.

(12) Thresh carefully, split or broken beans cannot be sold either for seed or food purposes.

FAVORS A DOG TAX

Editor The Maritime Farmer:—

I understand you are one of a committee to wait on the New Brunswick Government re a Dog Tax, as a protection to the Sheep Industry.

As a breeder and raiser of sheep, I am very much interested in this question and am a strong advocate of such a tax.

We own a pure bred Collie dog, which is a great help to us on the farm, but I would be willing to pay a fair tax on same, if by so doing means could be found to rid the country of worthless dogs that are daily see on the road, crossing the fields and doing so much injury to the sheep breeding interest of this country.

E. Roy Raymond.

Bloomfield Sta., N. B.

SHORTAGE OF SWEDE TURNIP SEED

Swede turnip growers are urged this spring to endeavour to secure and transplant a few sound roots to produce seed for themselves and their neighbours. Owing to the abnormal conditions now prevailing there will likely be very little swede seed for planting in the spring of 1918 unless our Canadian swede turnip growers make provision for their own supplies by growing the seed themselves. Canadian supplies of swede and most other field root and garden seeds formerly came from Europe, but this source is now practically cut off. The prospects for home grown seed have been reduced by the present price of swede turnips for food purposes, as it would now take nearly two hundred dollars' worth of full grown swede turnips to transplant an acre for seed purposes. This factor has had the unfortunate effect of reducing the area in the eastern provinces that would otherwise have been planted for the production of swede seeds.

The lantern dangling on a nail behind the horses or cows is a mighty serious risk. String up wires in suitable places and fasten wire hooks to them to hold the lantern. It may prevent a disastrous fire sometime. Do it today lest you forget and suffer loss through neglect.

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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May 29, 1917.

DATES OF ISSUE.

June 12-26

INCREASE YOUR CROPS BY STRICT ATTENTION TO FUNDAMENTAL PRINCIPLES

The farmers of Canada are advised to do their utmost to produce food supplies this summer. In August, 1914, the Maritime Farmer sounded the first note of the increased production campaign. We emphasized the fact then that the Empire's great need before the termination of the war, would be an adequate supply of food. Farmers were advised to get in readiness during the fall of 1914 to produce bumper crops in 1915. We ventured the suggestion that in all probability young men growing crops in 1915, might in the trenches in Flanders at a later date partake of the food they themselves produced. We believe our prophesy came true, and if the war continues, we believe some of the young men who are on farms during the growing season of 1917, will partake of the food they helped to grow, on distant fields of battle. The call is urgent, and our farmers are responding nobly and well.

The Increased Production Conference recently held at Fredericton, awakened a lot of enthusiasm which has developed into real, practical work.

The committee appointed at the Conference to work with the Department of Agriculture, met and appointed a strong executive committee that will help carry production's fiery cross to every part of the province. A strong campaign will be carried out for preparation early this year for the 1918 crops.

So far as the 1917 crops are concerned, not a great deal can be done by the government. It is true, large quantities of seed grain and potatoes were procured for the farmers on short notice, but this is a matter that should have been attended to early in the year.

The fact of the matter is that too many farmers neglect the procuring of their seed supply until they are ready to use it, and consequently a great deal of delay and disappointment ensues. Several cases came to our notice recently where farmers had neglected to procure their seed wheat supply early in the season, although some of their neighbors had home grown seed wheat for sale, of as good quality as the best they could import. Progressive farmers from other districts captured their supplies early in the season and now, May 20th, we hear some of the non-progressive expostulating on the fact that the government should have procured more grain for the farmers. We have no sympathy nor tolerance for men of this calibre. It is their own fault if they go without proper seed grain, and we hope the incident will teach a well merited lesson.

We presume that the majority of the readers of the Maritime Farmer have either grown an adequate supply of seed for their own use, or else procured same early in the season. We trust they have all used their fanning mills to good advantage so that the plumpest and best seeds are being sown.

We have no patience with a man who persists in growing smut, scab and blight infested crops when the remedy is so easily applied. There is not a reader of the Maritime Farmer who does not know what remedies to apply.

The farmer who does not know how to combat scab, smut and blight is evidently not a reader of an agricultural paper. He does not know his business, and seemingly cares less or he would get in touch with what his more progressive fellows know about the problems that confront them.

War on the weeds. Cultivate as thoroughly as possible and don't neglect to spray your potatoes early and often, for good results and increased yields. Study the article on combating Late Blight on other pages of this issue. The article in question is worth many times the Maritime Farmer's subscription price to any farmer who grows potatoes. Properly graded and treated seed, good cultivation, eradication of weeds and spraying to prevent Late Blight are a few of the things that each and every farmer, no matter how shorthanded in labor, can and should do for increased production, which means patriotic production, profitable production and a full pocket book.

ARE DOGS WORTHY OF MORE CONSIDERATION THAN SHEEP?

On another page of this issue will be found the gist of the 1917 Agricultural Legislation for the province of Nova Scotia.

We believe our Nova Scotia readers will agree with the wisdom of the measures to encourage dairying, the home growing of more bread stuffs, which will surely follow in the wake of the introduction of wheat mills, the encouraging of clover seed production and facilities for ditching.

Only farmers living in vicinities where creameries are operated, fully realize the benefits accruing from the establishment of a creamery in their locality. We have noted with pleasure the rapid progress in many sections that follow in the wake of the creamery.

The scrub bull nuisance has been a thorn in the flesh of our more progressive farmers for many years. If municipalities will see to it that the law in regard to bulls running at large is properly enforced and the legislation embodied in Bill 93 is adhered to, the scrub bull menace should be a thing of the past.

Several bills are included among those that went down to defeat that deserved a better fate. The Sheep Protection Act as it stands at present is a joke. Why the sheep industry is allowed to go unprotected, for unprotected it is so far as the present Act is concerned, is more than we can fathom. No sane man will venture to put his time and money in any business that is so precarious as is the sheep industry, while as unprotected against the ravages of dogs as it is at present in Nova Scotia. If there ever was a time in the history of Nova Scotia when adequate legislation was needed to protect a profitable food-producing industry, it is at the present time when production of food is so essential and everything that tends to deter economy should be eliminated. Our sheep flocks are producers of food and clothing. Dogs produce nothing and deter the efforts of men who are doing their best to heed their country's call for food production. Our sheep men want adequate legislation to protect their industry, but so many dog owners do not keep sheep and consequently they do not welcome tax on their unprofitable friends. We are sorry the Legislature of Nova Scotia did not arise to the occasion by passing the necessary legislation.

The sheep owners are not faultless in this regard, for had they written to their country representatives asking them to support the measure as was suggested repeatedly in these columns, they would undoubtedly be enjoying ample protection at this date. We would not be afraid to bet that there were more requests from dog owners asking that the Bill be not passed, than requests from sheep owners to have it passed.

When, oh when, will our farmers stand together as one man and make their wants known instead of allowing themselves to be overridden by other interests. No good government will disregard the requests of the masses when properly advocated and backed up by enough evidence to show that the people are sincere in their demands.

GROW YOUR 1918 TURNIP SEED REQUIREMENTS

We met Mr. S. J. Moore, Maritime Representative of the Seed Division, Ottawa, a day or two ago, and in the course of conversation re the prospects for the 1918 Swede seed situation, he told us that every indication points to a great scarcity in that commodity. An embargo has been placed on European grown seeds and consequently Canada must look to her home grown seed for supply. Turnip seed is easily grown. We would strongly urge every farmer who has some sound, smooth turnips left in his cellar or root house to set them out in the field, and let them produce seed. Plant them in rich, well cultivated soil so that the crowns are about one half an inch below the surface of the soil, rows three feet apart and roots eighteen inches apart in the row. Plant four roots for each pound of seed required and keep well cultivated and free from weeds until the tops are about 18 inches high. About the time the plants are going out of bloom, drive stakes and cris-cross twine between them to act as supports for the branches and prevent breaking.

We do not believe you will experience any difficulty in realizing at least 50 cents per pound for any surplus seed you may grow. If each and every farmer would grow even a few pounds, a seed famine in 1918 may be averted.

Our Nova Scotia farmers in 1915, who had never attempted the work before, produced 125 lbs. of extra good Swede seed on one-eighth of an acre and there is no reason why any farmer cannot obtain like results.

Agricultural Legislation Province of Nova Scotia '17

At the 1916 session of the Nova Scotia Legislature three bills were passed empowering the Government to give specific and practical financial aid in the further development of dairying, the erection of Roller Process Wheat Mills, and the purchase of such power agricultural machinery as clover hullers and ditching machines required for the development of agriculture in the various communities of the Province.

Or specifically Bill 71 makes provision for an expenditure not exceeding $20,000 for the building and equipment, with necessary plants and machinery, etc., of demonstration creameries or cheese factories, and in addition makes provision for the paying of running expenses of such demonstration creameries or cheese factories. The Government has already erected, and is now operating two creameries in parts of Cape Breton where a sparse population and lack of development of dairy farming made it difficult to make a private creamery a paying proposition. The Government agreement is to operate these two creameries, as well as one or two more that may be erected, until such time as they may become "going concerns", when they are to be purchased by the farmers of the communities in which they are erected, and to be operated by them as co-operative creameries. The policy has proved a good one to date in communities such as we have described, and provision is now made for extending the policy in order that the dairy industry of the Province of Nova Scotia may be further developed in these outlying communities where lack of means of manufacturing and marketing has retarded progress.

Bill 73 empowers the Government to spend a sum not exceeding $3,000 in one year for the purpose of assisting any Municipality, Agricultural Society, or persons to purchase clover hullers, power ditching machines, or similar agricultural machinery. The occasion for passing this Bill was the successful demonstration given of the possibility of clover seed growing in Nova Scotia, which was given by the Department of Agriculture operating a power clover huller in several communities of the Province. Last year in Nova Scotia, where practically no clover seed had previously been threshed this Government thresher handled some 15,000 lbs. of clover seed. Having thus demonstrated the practical possibility of farmers in certain communities growing clover seed, the Legislature passed this Bill in order, during the early stages of the development of clover seed growing, to assist in the purchase of the necessary machinery. Prior to the passing of this Bill there was similar legislation relative to assistance given to the purchasers of power ditching machinery. This legislation was repealed and the content of it embodied in the Bill which we have just discussed.

Scrub Bull Legislation

Bill 93, an amendment to the "Acts for the Encouragment of Agriculture," contains the following section: "Within a district in which an Agricultural Society has been formed and is in operation, or within a district in which a Live Stock Improvement Association has been formed and is in operation under any Statute of Canada, no unregistered bull shall be offered for service. Any person offering an unregistered bull for service in controvention of this section shall be liable to a penalty of $20.00 for each offence." This bill was passed as the result of resolutions from Agricultural Societies and Live Stock Improvement Associations, of which there are over three hundred in the Province, which societies and associations have been retarded in their constructive work because of scrub bulls offered in competition with pure bred bulls kept by these societies and associations.

Encouragement of Horse Breeding

It is compulsory, under the Legislation of 1912 and 13, to enroll all stallions offered for public service with the Department of Agriculture in the Province. While a large proportion of stallion owners have enrolled in the past, many have felt that they did not reap much benefit through their complying with the law. An amendment to the law was passed in 1917, which includes the following clause: "No charge made for the services of any stallion not enrolled under the provisions of this Act shall be recoverable by any action or proceeding." Any stallion owner not enrolling his stallion will be likely, under the provisions of this amendment, to have difficulty, to say the least, in collecting his accounts.

Farmers' Association

The Nova Scotia Farmers' Association was first organized in 1893. Since that time considerable legislation pertaining to the powers of this Association and making provisions for delegates, etc., has been passed. At the session of 1917, all this Legislation was consolidated with one amendment to the effect that no County Association may send more than four delegates to the Annual Farmers' Association meeting.

Blue Berries

A bill for the protection of blue berries in the Province carries with it matter of interest to farmers in some sections of the Province. Briefly, the essential feature of the bill is that "No person shall pick or rake from the bushes any blue berries by means of any scoop or other mechanical device, or otherwise than by hand."

Defeated Bills

Perhaps the most important bill which met defeat was an Act to Amend "The Sheep Protection Act." This amendment made provision for the taxing of dogs and for the paying of compensation to the owners of sheep killed by dogs, the owners of which are not known. The bill included a tax of $1.00 on dogs and $5.00 on bitches. It included the paying of compensation up to two thirds of the value of the sheep destroyed. It also contained provisions for the appointing of a person in every ward or polling district to be known as a sheep valuer, any three of whom might constitute a court to investigate claims for compensation. Also it contained provision that compensation must be paid by incorporated cities or towns for damage done by dogs owner or harboured within said cities or towns when the owners cannot be found.

This latter provision was one of great interest to farmers who claim that a large amount of the damage done by dogs to sheep is done by dogs owned in cities and towns. This bill would have passed had it received a little more support from farmers in the Province.

Another bill intended to encourage Sheep raising, which, however, was defeated was one in regard to line fences. This bill contained an amendment to the fence law to the effect that when requested a line fence must be of such structure as will turn sheep. At the present time many of these line fences are constructed out of two or three strands of barbed wire, which will turn all other classes of live stock except sheep. A farmer may wish to go into sheep raising, for which purpose the line fence must be made sheep proof; as the law now stands the proposed sheep farmer may have to pay the whole expense of this sheep proof fence, whereas the amended law would have made it compulsory for the neighbouring farmer to share half the expense.

Another defeated bill was an amendment to the Act in relation to the inspection and enrolment of stallians. According to this Act stallions in Nova Scotia must be enrolled either as 1, Pure Breds (Registered horses), 2. Grades (sired by registered horses but from unregistered dams). 3, Cross Breds (a term intended to include all other nondescript classes of stallions). Had the amendment carried this third class of horse would have been officially terms "scrubs", but the amendment did not carry, so that for another year they will retain their more fashionable name.

A defeated bill which occasioned considerable newspaper discussion was No. 187 termed "An Act to encourage the Raising of Cattle in the Province". The essential provisions of the Act were that between the first day of June 1917, and the first day of Jan. 1920, it shall be illegal to kill or slaughter any calves for any purpose, a calf being defined as any heifer, steer or bull under the age of one year. The only exceptions to this general law were to be the killing of any calf made necessary by disease, of the killing of a calf for the owner's use, and not for purposes of sale. Although widely discussed in the press, the bill received scant consideration in the Legislature.

Notes on the Cultivation of Some Staple Vegetables

It is very important that those who are making a garden for the first time should have some knowledge of the way to grow the different kinds of vegetables, hence the following information is given in regard to some of the staple kinds.

Carrots and Parsnips.

These should be grown in deep, thoroughly prepared soil of loose open texture, to admit of even root development. This is especially true in the case of parsnips, as a heavy compact soil develops a poorly shaped and rooty parsnip. The ground may be spring or fall manured, ploughed deeply and thoroughly worked.

The seed is sown in the open ground usually before the middle of May, in rows two and one-half feet apart, at the rate of two pounds per acre for carrots and four pounds per acre for parsnips. The carrots may be thinned to two inches apart, and the parsnips four inches. If carrots are spaced too far apart in the row they become too large for table use. The ground should be rich enough and sufficient moisture maintained by frequent cultivation to continue an even growth throughout the season. The root should be kept covered with soil to the top, preventing the top of the root from becoming green, which is objectionable for market carrots.

Beets.

Beets for early use should be started as early as possible on well prepared ground. For winter use seeding toward the last of May, or early in June, is advised, as the beet does not become so large. Any good soil will develop good beets providing a uniform growth is maintained. A checked growth has a tendency to produce fibre.

Six pounds of seed per acre is usually used. The seed is sown in rows two and one-half feet apart, and the plants thinned to three to four inches apart.

Beans

Beans do best on a fairly rich soil, and unlike the pea, require a warm situation and warm soil. While the pea will do well on a fairly heavy soil, the bean likes a loose, friable soil for best development. The seed should be sown not earlier than the middle of May. They are usually planted in rows two and one-half feet part, and the seed dropped two to three inches apart and one to one and one-half inches deep.

Successional sowings may be made every two weeks until the middle of July, for the purpose of extending the season into the fall.

Onions

Onions do best on a light loamy soil rich in plant food. Light loams can be worked to better advantage than heavier loams and do not dry out so badly during summer. An abundance of available plant food is necessary if profitable crops are to be obtained, and consequently a soil that has been manured for several seasons previously should be selected. The land should be free from stone, and weed seeds.

Onions may be grown in the same land year after year, and it cannot be made too rich. Well-rotted barnyard manure applied in the fall and ploughed in shallow, about four inches deep, is one of the best fertilizers. Fifteen tons per acre annually is a good application. If the soil is well supplied with vegetable matter successful crops may be grown with commercial fertilizers applied at the rate of 500 to 1,000 pounds per acre. This is sown broadcast and harrowed in just before seeding.

The ground can be best prepared with the disc, springtooth, and smoothing harrows, and should be well pulverized to a depth of four inches.

The seed is sown in rows on the level ground 12 to 14 inches apart and ¼ inch deep at the rate of 3½ pounds per acre. A hand seeder is usually used. A seeder and wheel hoe combined can be purchased from any seed merchant at a reasonable rate. Seeding should be done as soon in the spring as possible, so that the plants will get well established before the dry, hot weather of summer.

Maintenance tillage is done principally with the wheel hoe, and consists in keeping the surface ground loose around the plants and all weeds from starting.

The falling down and withering of the tops indicates maturity, at which time the onions should be pulled. They are left fo ra week to dry, after which they may be topped and put into slatted crates, or put into these crates without topping, aken to a shed and al-

lowed to cure for two or three weeks, after which they are ready for market. The advantage of the crate is that a small bulk of onions is together with plenty of ventilation, which is very necessary for proper curing for storage or shipment. They should not be stored in bags or in large piles in bulk. They may be stored in slatted bins arranged one above another, 10 inches to 12 inches deep. If stored the temperature should be kept as low as possible and the air be dry.

Onions may be started in flats in the hotbed or greenhouse ten to twelve weeks before ready to plant, being set in the open ground early in May. They will transplant easily, and good large plants will prove most satisfactory. About ten good plants can be grown on a square inch. The seed should not be sown too thickly. One and one-half to two pounds of seed will give sufficient plants to set an acre, spacing the plants four inches apart in rows one foot apart. The disadvantage is the expense of transplanting. For securing early onions and onions of large size this practice is advisable.

Cabbage

Any good garden soil will grow cabbage. A warm, well drained sandy loam, very rich in plant food, is best for early cabbage. A northern exposure is best for late cabbage and a heavy soil may be used. The cabbage is a gross feeder and there is no danger from making the ground too rich. Twenty tons or more per acre of manure can be used, and this may be supplemented with from 500 to 1,500 pounds of commercial fertilizer for an acre. Commercial fertilizer is especially advisable for early cabbage where the object is to develop marketable cabbage quickly.

If the ground has been manured in the fall and ploughed, it should be again ploughed in the spring and thoroughly worked to a depth of six inches.

For early cabbage start the seed about March 15. The seedlings are transplanted to two inches apart three weeks later, and will be ready for the open ground early in May. The plants are usually set on the level in rows 30 inches apart and 18 inches apart in the row. Late cabbage are usually grown from seed sown thinly in a cold frame early in May and plants from these are set in the field about the middle of June, spacing the plants in rows 32 inches apart and 20 to 22 inches apart in the row.

The usual maintenance tillage should be given during the summer, and the ground not allowed to become hard and compact or to dry out.

In the storing of late cabbage cut the heads during a dry day and store where good ventilation is possible. The air should be kept dry and the temperature as low as possible. The heads should be placed on slatted shelves far enough apart to store two or three tiers of cabbage, with a good chance for ventilation under the shelves. A confined atmosphere renders cabbage storage impossible.

Cauliflower.

The cauliflower requires a cool, rich loam. A northern exposure is best. Continuous growth is important, and anything that tends to check the plant in any way should be avoided. Dry weather often results in failure, and where watering is possible it may be advisable. For early and late cauliflower start the seed and handle the same as for early and late cabbage, except that more careful attention should be given to detail in the development of plants. Like the cabbage, it takes about seven weeks to develop a stocky, properly hardened-off plant. They may be spaced in the field the same as cabbage.

When the heads are three to four inches in diameter the leaves should be tied together over the head in order to develop a good white flower.

Turnips

The early turnips may be sown as soon as the ground is fit, in well prepared soil. The Swede turnip should be sown about the last of May. They do best on a good loam retentive of moisture. Continuous growth is necessary to develop good quality. Like most of the root crops, they develop best during the damp, cool fall weather, and the advantage of late seeding is that they make little growth during the hot summer, developing a succulent tissue in the fall. Swede turnips planted early are very liable to be checked in growth during the heat of the summer, developing a root containing much fibre, and lacking in quality.

Corn

A warm, friable, rich soil should be selected for garden corn. The seed is sown in hills three and one-half feet apart each way, and five plants allowed to develop in a hill. The seed is sown soon after the middle of May. Early and late varieties should be planted to extend the supply of table corn into the fall. As is the case with peas and beans, constant surface cultivation to keep the weeds down and maintain a loose surface mulch is necessary.

Peas

Garden peas may be sown as soon as the ground is fit to work. The land should be fall manured with ten to fifteen tons of well rotted manure per acre, and ploughed. This is well worked in the spring to a depth of five inches. The seed is usually sown in rows two and one-half feet apart, and the seed planted one inch apart in the row.

Dwarf and semi-dwarf varieties do not require staking. It is advisable to stake the tall-growing sorts.

If one variety only is used, successional sowings should be made every week or ten days until the first of June. The garden pea is a cool season vegetable, and will not do well during the heat of summer. The season may be extended also by planting late maturing varieties. The early seeding is usually made one to one and one-half inches deep; the later seeding, two to three inches deep.

Radish

The radish may be sown as soon as the ground is fit to work, in rows one foot apart, and the plants thinned to one inch apart. Successional sowings may be made one week apart until the first of June.

Lettuce

Any good garden soil will grow lettuce. The ground should be rich and fairly friable. The seed may be sown inside six weeks before planting outside is possible. The plants are developed as is the case with cabbage. They may be set in rows one foot apart, and six inches apart in the row.

Seed may be sown in the open ground as soon as it is fit to work, and the plants thinned to four or six inches apart. Successional sowings may be made every two weeks until the first of June. Seed may be sown the last of August for a fall crop on well prepared soil.—By W. Saxby Blair, Superintendent, Experimental Station, Kentville, N. S.

THE FIRST SPRAY

With the prospects for apples in 1917-18 still in doubt, it seems that the man who has from 20 to 90 per cent of his capital in Annapolis Valley orchard can only in justice to himself and his property care for it at least as well as he has in the past. In 1915 every pessimist in the Valley was crying, "We will get nothing for apples." In 1916 the cry was the same. We now know the effect of the prophecies and their lack of truth. We know that the effect was, that many people neglected spraying in 1915 adn 1916 and grew the poorest apples they had grown for years. As to the truth of the prophecies, in 1915 we got a good price for apples and in 1916 we got the best price in the history of the Valley. Our pessimistic prophets have, therefore, caused the loss of thousands of dollars to themselves and their neighbors, who believed them and grew poor crops and so could not take advantage of the high prices. In addition, and more important than the loss that has occurred, these prophets have been the direct cause of an immense amount of neglected orchard at the present time; orchards that cannot be brought back to full bearing until 1918 or 1919 at least. It is therefore questionable if anyone is justified in counseling the neglect of the orchard in 1917 even if we could be sure at the present time that the 1917 crop will not be worth picking. The effect that such neglect will have on the 1918 and 1919 crops would be very serious and, further, we cannot be sure that the 1917 crop will not be sold for high prices. No more are we sure that it will not be sold for low prices. We simply do not know. But we do know that neglecting our spraying in 1917 will probably result in a short crop in 1918.

Our friends who intend caring for their orchards this year with a view to growing No. 1 and No. 2 only, of which grades they know a market will consume twice as many as it will of No. 3, and who are also preparing for bumper crops in 1918 and 1919, will use the most effective as well as the cheapest spraying material and apply it in the most effective and rapid manner possible. We would direct their attention to Circular No. 8 of the Dominion Entomological Branch and if they are not already supplied with a copy, a card to G. E. Sanders, Annapolis Royal, N. S., will bring such a copy at once.

The time to apply the first spray is when the leaves are the size of a ten cent piece. There is now some leaf for the spray to stick to and the benefit from the srpay will extend over a longer period than if the spray is applied earlier. Many leaf-eating insects are killed by applying the first spray that would not be killed by an earlier spray.

Material: Lime sulphur, 1.009 sp. gr. or 3 gals. commercial strength to 100 gals of water, or 1-33, is the strength recommended. If home made lime sulphur is used it should be diluted according to the table on page 10 of Circular No. 8. Always use a hydrometer and test homemade material, as you cannot otherwise be sure of the strength you are using. For a poison,

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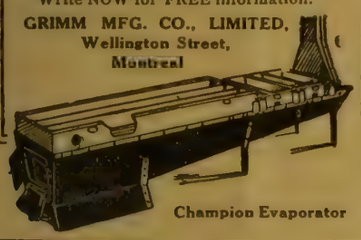

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arsenate of lime is recommended, in this strength of lime and sulphur, 2 lbs. to 100 gals.

Tests carried on by the Dominion Entomological Branch and by the Officers of the Experimental Farm go to show that the lime sulphur arsenate of lime combination not only gives less burning but is a better fungicide than the lead arsenate lime sulphur combination. In addition, the poison costs but little more than half as much as the same amount of poison in the form of arsenate of lead. It is in powder form and is much more easily agitated in lime sulphur than arsenate of lead. In buying and using this poison this year the apple growers of the Valley are not only getting a better poison to use with their lime and sulphur, but hey are saving between six and seven thousand dollars on the aggregate.

Application: Drench thoroughly at 200 lbs. pressure, using a Drive nozzle. In making this recommendation both speed in application and efficiency in the work have been considered. To spray a tree rapidly and thoroughly a large amount of material must be coming through the nozzle and to get a large volume through the nozzle there must be a high pressure behind the nozzle. At 200 lbs. pressure and a Drive nozzle the rod should not be held still and instant, but must be moved rapidly and constantly over the tree. The most important insect killed by this spray and one of the hardest to combat is the budmoth and it has been proved that the Drive nozzle is about twice as valuable as any mist nozzle in controlling that insect.

Substitute Materials.

Bordeaux mixture may be used for this spray, but at the present time we can see no advantage in using it in view of the fact that it will cost about twice as much as lime sulphur.

Soluble sulphur, 3 lbs. to 100 gals., and arsenate of lime, 1½ lbs. to 100 gals. Last year this combination was used in many orchards and where it was used only once no ill effects resulted. The soluble sulphur increases the killing qualities of arsenate of lime, so that a better killing agent results from the use of a smaller quantity of arsenate of lime with this fungicide than with any other so far tested. It may be that under certain conditions ill results would result from only one spray of this material, but in all of our work last year yellowing of the leaves only resulted from two, three and, sometimes, four applications of this material, the effect apparently being accumulative.

Considering the cheapness of this material and its high insecticidal value, it would seem best in view of the results of the experiments of the Entomological Branch last season, that we now recommend growers to try this combination, for a first spray only, on a small scale, say one tank, so as to see if there is any flaw in the theories founded on the results of 1916, as the proving of this material as safe, for ONE SPRAY ONLY, under all conditions, would be a great boon to the apple growing public.—By G. E. Sanders, Field Officer in charge, Dominion Entomological Laboratory, Annapolis Royal, N. S.

In growing late carrots, we plow under manure in early spring and let the ground lie until the second week in May. Then disk it twice, smooth off the ground in the morning and drill in the seed while the ground is moist in rows 26 inches apart. We start to weed when the carrots are getting the third leaf and thin out from 1½ to two inches. Then we go through them about every 10 days with a horse cultivator and spray with bordeaux mixture every week or 10 days after they are six or eight inches high to prevent blight.—George Demarest, New Jersey.

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WHEN you come to buy your new mower this year, take a good look at the features of the **McCormick No. 6.**

Rough, stony, or stumpy ground has no terrors for the driver of a **McCormick No. 6,** because the floating cutter bar can be lifted quickly and easily, and fully twice as high as on other mowers, and as quickly and surely dropped again. No mower ever had a cutter bar that lifted so high without throwing the machine out of gear. The cutter bar weight is carried from the trucks, where it keeps both wheels hugging the ground, increases the tractive power, and lightens the draft of the machine. The bar itself is strengthened in two ways: At the butt it is a full half inch wider than the average bar, and it is heat treated throughout, like an automobile part, making an extremely tough, strong and rigid bar which gives a clean shear cut from one end to the other. The new **McCormick** mower is made in all desirable sizes.

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The Standard saves one half-pound of valuable cream per cow per week over other machines. By its unequalled close skimming it gets all but one-tenth pound of butter-fat from 1,000 pounds of milk skimmed, while other separators lose one-half to a whole pound.

This saving may seem small until you realize what it means to you. With, say, eight cows, it mounts up to four pounds of extra butter-fat every week. At 30 cents a pound, butter-fat price, you make an extra profit of $1.20 per week, or, in 40 weeks of milking, $48.00. We will accept this amount as first payment on your new Standard. **With eight cows, your Standard pays for itself out of savings! Will it not pay you handsomely to replace your old machine and get the Made-in-Canada Standard?**

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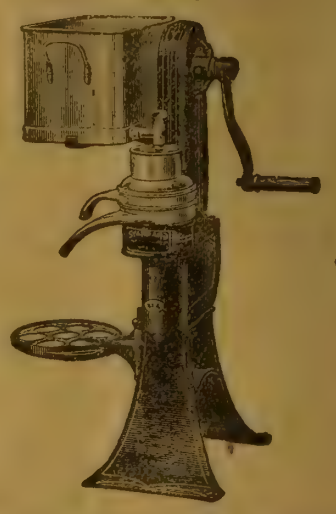

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Perhaps no branch of the dairying industry is of greater importane than that of rearing the dairy calf. Many farmers do not raise their own stock, simply because they cannot see their way to raise the calves without whole milk. They maintain their herds by purchase, a most expensive and unsatisfactory way. By it, the farmer loses the valuable strains in his own herd, and in many cases only gets the rejects of the herd of the seller. The importance of this cannot be over-estimated, and we wish to interest all dairy farmers to raise and breed their own stock. It is a great gain for the industry of dairying when a farmer can be interested to improve his herd by his own breeding. The high price of milk is one of the drawbacks to rearing the dairy heifer, and also the picture of the skim-milk calf as being a small, unhealthy, stunted individual that is absolutely worthless. There are quite a number of stunted calves to be seen around the average farm, but such results should not be charged up to separated or skim-milk, but rather to the ignorance or carelessness of the feeder.

Perhaps no branch of the dairying industry requires such delicate handling or such watchful observation as the rearing of the heifer calves. They should be separated from the bull calves before they are two weeks old, or if possible they should never be allowed to run together in a loose pen. They contract bad habits of sucking each other, and bull calves are dangerous in this matter, for their urine will convey all its poisonous matter to the stomach and blood of the female. This alone is enough to set up stomach troubles in the young heifer calf that may ruin her usefulness through life. It is her capacity to digest and assimilate the nutritive element in food, that is her valuable asset as a cow and this faculty is largely regulated in its growth, by the watchful care of the feeder. Start with the idea of developing a good healthy stomach capacity, and along with pedigree or a proved strain, it is the great high road to success in dairying.

It is the safest and best pratice to tie up the young calves from the first, that is, if the dairyman is not fitted with single pens. A small halter or leather strap around the neck, with a ring, and a light rope with a swivel snap hook in it, may be used to fasten it in the pen. Unlike bull calves heifer calves can be petted to advantage. When a female calf learns not to fear its owner, and experiences only kindness, it kindles affection in the animal, which trait in her character aids her to give her the motherly instinct, and therefore her highest possible milk production. But the calf rearer must guard against being too good to the calf for overfeeding is possible, and a ruined stomach will be the result.

The dairy heifer calf should be handled and it is by no means necessary that the calf should be fed upon fresh milk from the cow. Cream and fat are not required by calf intended for the dairy, but a good frame of bones covered with healthy muscles. These are abundantly supplied by separated or skim-milk, and the milk is easily digested when given warm, at about 80 dog. F.

Calves fed on separated milk, will

For Better Butter use

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not look quite so thrifty for the first few months, as calves fed on whole milk or allowed to run with their mothers. But, if they are properly fed, they will be as good at the end of the first year of their lives, as those fed on whole milk or run with their dams. They know no period of check or setback which the whole milk or suckled calf gets at weaning time, and it is also a very expensive way of rearing calves.

The study of the following table will reveal the fact that there is very little difference between the composition of whole and separated milk:

	Whole milk	Separated milk
	Per cent.	Per cent.
Water	87.10	90.50
Fat	3.90	.10
Casein and albumen	3.40	3.57
Sugar	4.75	4.95
Ash	.75	.78

The fat in the milk is the least important constituent as far as calf rearing is concerned. The casein, albumen and ash, are the most important constituents of milk for the growing calf. These substances are used by the body for making muscle, nerve, bone, hair, hide and hoof. These elements are left in separated milk.

For a calf of average size it should receive about 8 pounds of whole milk a day for the first week, and at the end of the second week should be gradually weaned from whole milk and be given separated milk instead. The length of time that the calf should be fed on separated milk will depend upon the amount of separated milk available for this purpose. Some feeders wean their calves at four months of age, but it is better practice to feed skim milk until the calves are six months old. If one has abundance of separated milk it is profitable practice to feed heifers until they are eight months or a year old. This will ensure a better growth and better development, and heifer calves from high record parents, will pay the time and milk thus spent.

When three weeks old, have hay before the calf all the time, just a handful added fresh when eaten. Never mix the grain ration with the milk, always give the grain ration alone. Usually the calf will not eat over half a pound a day for the first two months. From this time forward until it is six months old a pound of grain per day will be sufficient. Two parts ground oats and one part linseed meal makes a very good grain ration for young calves, and alfalfa hay after the calf is 3 or 4 months old.

The heifer should be fed liberally and have regular rations given her. The feed prepared for the milking cows should be given to the heifers also, but just about half the quantity will be sufficient. Liberal feeding of good food develops the digestive functions, and the training of a heifer for the dairy should be such as to encourage the healthful disposal of as much food as possible. If a heifer becomes fat on liberal feeding instead of enlarging her general growth, it is a sign that she is not taking after the milking strain, and it will be a question if she will be suitable for the dairy. The training of heifers for their duties in the dairy should be a constant care of the dairyman. Not only in the breeding and feeding, but in acquiring docility which eliminates all cow vices. The "law of kindness is better than the rod" with the sensitive dairy female, and it is certainly more profitable.

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FREDERICTON, N. B.

Write for free booklet describing Chromoil Tanned Leather and its merits.

Advertise in the Maritime Farmer

CHOPPED ALFALFA VS. BRAN FOR DAIRY COWS

Here is the result in brief of a test at the University of Nebraska North Platte substation to determine the effect of substituting chopped alfalfa for bran in the standard ration of 4 parts ground corn, 2 parts bran and 1 part oilmeal for dairy cows. In November, 1916, six pairs of dairy cows were selected with reference to lactation period, milk and butterfat production, age, breeding and other factors influencing their probable production during the next thirty or sixty days. One cow from each pair was put into Group A, and the other into Group B. The milk and butterfat production of the two groups had been about equal during the past month, and so far as could be foretold would be about equal during the next two months. All cows were handled in the same manner, excepting that during the first fifteen days the cows in Lot A were fed the standard ration of corn, bran and oilmeal, while the cows in Lot B were fed the same amount of grain, but in the mixture bran was replaced by chopped alfalfa. At the end

(Continued on page 482)

Eleven Good Reasons

Why you should buy a NEW DE LAVAL

GREATER CAPACITY: Without increasing the size or weight of the new bowl, its capacity has been increased.

SELF-CENTERING BOWL: The bowl is loosely supported upon the spindle and will run true and do perfect work even after long wear.

SKIMS CLOSER: The improved bowl design, together with the patented milk distributor, gives greater skimming efficiency.

DISCS INTERCHANGEABLE: All discs are exactly alike, are unnumbered, and are interchangeable.

FEWER DISCS: There are fewer discs in the bowl, although the capacity is greater.

EQUIPPED WITH SPEED INDICATOR: Every New De Laval is equipped with a Bell Speed Indicator, the "Warning Signal" which insures full capacity, thorough separation, proper speed and uniform cream.

EASIER TO WASH: Simpler bowl construction and fewer discs, caulked only on the upper side, make the bowl easier to wash.

EASIER TO TURN: The low speed of the De Laval bowl, the short crank, its unusually large capacity for the size and weight of the bowl, and its automatic oiling throughout, make it the easiest to turn and least tiring to the operator.

THE MAJORITY CHOICE: More De Lavals are sold every year than all other makes of separators combined.

TIME TESTED: The De Laval was the first cream separator. It has stood the test of time and maintained its original success and leadership for nearly 40 years.

SERVICE WHEN YOU NEED IT: The world-wide De Laval organization, with 50,000 agents and representatives ready to serve users in almost every locality where cows are milked, insures the buyer of a De Laval quick and efficient service whenever he needs it.

If you haven't the spare cash right now, that need not stand in the way of your getting a New De Laval at once. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several instalments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

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CASH or CREDIT
Terms: 20% Down and $1–$2–$3 Weekly.
We trust any Honest Person
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HOMESEEKERS' EXCURSIONS

Via
CANADIAN GOVERNMENT RAILWAYS,
To
Manitoba and the Canadian North-west

Choice of Routes—Through the "Clay Belt" Country

Second class reduced fare excursion return tickets will be sold from Maritime Provinces every Wednesday and from Province of Quebec every Tuesday up to and including October to Winnipeg, Regina, Saskatoon, Calgary, Edmonton and numerous other points in the Canadian Northwest. These tickets will be good for return within two months of date of issue and full particulars can be obtained from any Ticket Agent of the Canadian Government Railways.

Holders of these tickets have the choice of different routes. They can travel via Quebec and Canadian Government Railways to Winnipeg—the route of the "Western-National" Express, or via the new "Transcontinental Line" via Toronto, North Bay, Cochrane, Ont., and Canadian Government Railways to Winnipeg.

Homeseekers' tickets reading via Canadian Government Railways through Quebec will be good for stop-over at Stations, Doucet, Que., Hearst, Ont., and intermediate points while tickets routed via "Transcontinental Line" will permit stop-over at Cochrane, Ont., Hearst, Que., and intermediate stations, with the additional privilege of sidetrip tickets (if desired) from Cochrane to Canadian Government Railway Stations east thereof, to and including Doucet, Que., at special low fare.

The above stop-over and side-trip privileges are arranged in order to enable passengers for western points to inspect the famous "Clay Belt" of Quebec and New Ontario—a rich farming country opened up by the new line of the Canadian Government Railways. Those interested will be forwarded copy of booklet "Notes by the Way—Quebec and West", describing that territory.

LIVE STOCK.

WOOL

Wool. its a real live subject today and the farmers are realizing the value of the sheep industry as never before, owing to the record prevailing prices for both wool and mutton. The time has come for shearing again and placing on the market the 1917 wool clip which it is hoped will be placed on the market this season in better condition than ever before and with as little waste as possible. Previous to 1914 Canadian wool was sold under the one general term "wool", good, bad or indifferent, long and short, and all the various grades were sold under the one head and this state of affairs was the chief reason why our wool always sold low when compared with the price of wool ruling in other countries.

Sheep raisers, when they fully understand the conditions depreciating the price of Canadian wool and how these could, to a great degree, be rectified, were quick to take advantage of the assistance by the Live Stock Branch, Ottawa, in the marketing of wool. This assistance takes the form of aiding in the formation of Wool Growers' Associations, in introducing improved methods of preparing and caring for the fleece before offering it on the market, and in supplying expert wool graders to the Association. It has been the distinct purpose in pursuing this work to help improve the character of the wool clip and develop a national standard of wool grades. Accordingly the services of wool graders are furnished to classify the wool and arrange it generally in a condition most acceptable for market. Associations organized for this purpose carry on and control, through their own officers, all business relating to the collection of the wool and the conduct of its sale.

Advantages of the co-operative movement and the success of the operations of these Associations are clearly expressed in the rapid increase of amount of graded wool offered for sale since the inception of these activities.

The adoption of grading has created a spirit of rivalry, in which each farmer endeavours to outdo his neighbour, or prepare his wool in a fashion which will grade higher, the results of which are most wholesome and effective in obtaining a distinct improvement in the character of the product. This does not comprise the only respect in which beneficial results are exhibited. As the co-operative movement grew, a steady advance in the price occurred and the price of the classified product, sold through Associations, exceeded during all three years that sold by individuals in the old way. The revenue to a member of a society, it has been demonstrated, was greater than that he could have received by selling at a flat price through the ordinary channels. It is estimated from sources as reliable as can be obtained of conditions of this nature that the average price last year of all graded wool was 5½ cents higher than the average price of other wool sold in the country. This is conservative and, although not definite, yet was gleaned from information derived from many wool men and farmers in close touch with market conditions and in a position to observe actual sales. There are many instances of wool being sold in almost the same district where an Association existed at from 8 to 10 cents less.

There are already organized in the Maritime Provinces eight of these Wool Growers' Associations through which wool will be collected, graded and sold under co-operative basis this season. The following are the names of the Associations, the districts they cover, the Secretaries or Managers, the center at which the wool is collected, and the dates on which the grading will be done:

Sussex & Studholm, W. G. A.—M. A. MacLeod, Secy., Sussex, N. B., June 1-2-4, amount of wool, 8,000 lbs.

P. E. Island W. G. A.—W. J. Reid, Mgr., Summerside, Charlottetown, June 25-30, amount of wool, 40,000 lbs.

Antigonish County W. G. A.—Dr. Hugh McPherson, Mgr., Antigonish, N. S., June 6-7-8-9, amount of wool, 20,000 lbs.

Guysboro County W. G. A.—A. D. Macdonald, Mgr., Guysboro, N. S., June 11-12, amount of wool, 3,000 lbs.

Inverness County W. G. A.—John R. McDonald, Secy., Port Hood, N. S., June 14-15, amount of wool, 8,000 lbs.

Richmond County W. G. A.—Rev. R. A. MacDonald, Secy., St. Peters, N. S., June 16, amount of wool, 5,000 lbs.

Pictou County United Farmers—M. Tamplin, Secy., New Glasgow, N. S., June 18-19, amount of wool, 5,000 lbs.

Annapolis Valley W. G. A.—J. L. Pineo, Secy., Kentville, N. S., June 20-21, amount of wool, 4,000 lbs.

The wool should be sent in to the Association unwashed, that is just as it comes off the sheep's back, rolled and tied with paper twine or, if this is not available, with a hard smooth twine. The wool is then either sent by freight or carried in by the individual to the warehouse of the nearest Association in the district. The sheep men of the Maritime Provinces in marketing their wool through these Associations as a graded product and offering for sale co-operatively fairly large amounts of wool are bound to receive highest market prices and will help to make a standard not only for Canadian wool, but for the wool produced in the Maritime Provinces.

PROFITABLE BEEF PRODUCTION

The results obtained at the Experimental Farm at Nappan in feeding

"With your Milking Machine I can Produce Milk of Superior Quality"

The writer of the letter below is known throughout his district as a keen and rather critical judge of dairying methods and equipment. They say he is a "crank" on quality! Certainly the John D. Duncan Co., of Montreal, are most particular about the purity of the milk they get for their patrons.

RIVERFIELD, QUE., Jan. 25, 1917

Gentlemen:—
I have noticed some of the testimonials you are publishing and thought I would let you know how I like the Empire Milking Machine and Empire Engine which I purchased from you in the month of April, 1916. It has given entire satisfaction. I have had considerable experience with engines for many years, and am consequently in position to appreciate the merits of the Empire, and recommend same as one of the most reliable for milking machine and general farm work.
With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operator.
J. R. McKELL.

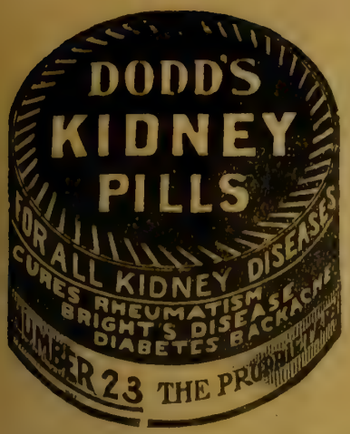
EMPIRE
Mechanical Milkers

produce milk of high quality, at the same time that they save time, reduce expense, increase profits, and make it possible to keep up and even increase the number of cows milked, in spite of the growing scarcity of help, They certainly are worth investigation.

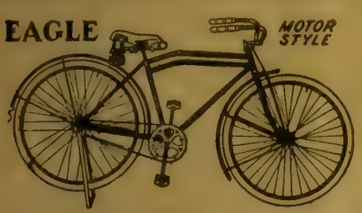
Write for Booklets explaining the correct natural principle on which the Empire works, and giving the experience of prominent Dairymen who are using it. Address Dept. L

THE EMPIRE CREAM SEPARATOR CO. of Canada, Limited.
MONTREAL. TORONTO. WINNIPEG. 63

CROWN BRAND
CORN PURE SYRUP
Children prefer it to the most expensive butter. Why not save money by using more of this syrup?
In 2, 5, 10 and 20 pound tins—3 lb. Glass Jars.
Write for free Cook Book. 34
THE CANADA STARCH CO. LIMITED, - MONTREAL.



EAGLE MOTOR STYLE



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DIGS YOUR DITCHES
GRADES YOUR ROADS
EASILY
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REVERSIBLE
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PAYS FOR ITSELF IN ONE DAY
DOES THE WORK OF 50 MEN
SEND FOR FREE BOOKLET
THE PRESTON CAR & COACH CO LIMITED
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Garden Seeders !

A DANDY FOR TURNIPS

Makes the drill, sows, covers and rolls the seed while you walk. Does the work of two men in half the time. No better seeder built for the accurate sowing of turnip, carrot, cabbage, beet, pea, corn and all other kinds of garden seeds.

Price $8.50 Delivered at Your Station. Order To-day.

The Sussex Mfg. Co., Limited,
Sussex, N .B.

Try an Ad in the FARMER

good stockers, heavy fed vs. good stockers, light fed, were as follows.

Eight steers were selected, in such condition that they could be classed as good stockers. These were dehorned and fed a preparatory ration for a few weeks previous to starting the test, in order to get them accustomed to their feed and surroundings, then divided into two lots of four each. The four heavy fed, or Lot 1, were given 50 per cent more roots and meal than were the four light fed, or Lot 2. Number of days in test 93; total weight at the beginning for Lot 1, heavy fed, 4573 pounds; at finish, 5295 pounds, an increase of 722 pounds. For Lot 2, light fed, at beginning 4206 pounds; at finish 4880 pounds, an increase of 674 pounds.

The original purchase price was 6.25 cents per pound, live weight. The selling price was 8.1 cents per pound. The gross profit for Lot 1 was $143.09; for Lot 2, $132.40. The total cost of feed for Lot 1 for 93 days was $99.16; for Lot 2, $75.29, leaving a net profit for Lot 1 of $43.93, or a profit per steer of $10.98; for Lot 2, a net profit of $57.11, or per steer $14.28, a difference of $3.30 per steer in favour of the light fed.

The average profit per steer for three years, over and above the cost of feed at market prices, was for Lot 1, $16.06; for Lot 2, 18.05, a difference of $1.99 per steer in favour of the light fed. The average cost for three years to produce 1 pound of grain was 11.08 cents in the case of heavy fed and 9.57 cents for the light fed. The ration fed to Lot 1 at the beginning of the period was 60 pounds roots, 6 pounds meal, 1 pound molasses. At the finish 40 pounds roots, 16.5 pounds meal, 2 pounds molasses. For Lot 2 at the beginning 40 pounds roots, 4 pounds meal and 1 pound molasses; at the finish 30 pounds roots, 11 pounds meal and 2 pounds molasses. The meal mixture was made up of 200 pounds of ground oats and barley (equal parts by weight), 200 of bran, 50 of oilcake, 50 of cotton seed.

The meal mixture cost $1.50 per hundredweight; roots were valued at $2.00 per ton; hay at $8.0 per ton; and molasses cost 20 cents per gallon.

It will be noted that the greater profits were realized for the lighter fed steers. Similarly the light fed good butchers, as per results given in Series One, gave the greater profits, but a greater difference was noted in the good butchers, light fed, than in the above instance, which would naturally be expected because the former are too advanced to make the same profitable use of the food consumed as would the latter. Nevertheless there appears to be a profitable limit in the amount fed, even to good stockers, as the above test verifies, as it also does, that good profits can be realized by the proper finishing of good beef.

KILL FLIES WITH FORMALIN

A quick and sure method of killing stable flies is to make a 10% solution of formalin in milk and sprinkle it on the cement floors and gutters. The flies are attracted to it and are killed in 30 minutes. Then the floors are washed and the stable is clean for the day. This operation is repeated each morning as long as necessary. At the beginning of the campaign it will take several mornings to clear out the flies, but after that it will be necessary to do it only as often as they become bothersome. Their breeding place in the manure pile outside the stable should be done away with and the manure drawn out daily to the fields or placed in a fly-tight pit.

CLEANING OUT THE WORMS

To rid hogs of worms feed a mixture consisting of six grains santonia, four grains calomel, one dram bicarbonate of soda for each 100 pounds live weight of hogs. You can get this mixture made up at your drug store.

Keep the hogs off feed, but not without water for 12 to 18 hours, and give this remedy mixed in a thick slop of shorts and water. You can mix the medicine first with a quart of dry meal and sprinkle this in as you stir the slop. Keep salt away from the hogs when giving them this medicine.—E.

PREVENTING HORNS

Horns can be prevented from growing on a calf by rubbing caustic potash on the little nubs that develop into horns. A good time to do this is when the calf is a week or two old. Wrap one end of the stick of caustic in paper to protect the fingers, moisten the other and rub on the nubs. Be careful that it does not run down the face and into the eyes. Removing the hair helps. Make three applications, allowing it to dry between each application. The calf should be protected from rain to keep the caustic from spreading.

"Before I bought a gas engine there were two or three that looked pretty good to me, and there was one, especially, offered at a considerably lower price than the ALPHA, that I came near buying.

"When I got thinking the proposition over, though, I figured that the ALPHA must be worth all its makers were asking or else it wouldn't be outselling the cheaper engine. So I finally picked the ALPHA, and I know now that I didn't make any mistake. One of my neighbors saved a few dollars (as he thought) by buying the other engine and he wishes now that he had followed my example and bought an ALPHA."

The first cost of an engine is the last thing to consider. What you are buying is not so many wheels, washers and pistons, but so much service. If you can't depend on an engine to do the work you buy it to do, it is dear at any price.

Thousands of Canadian engine-owners swear by the ALPHA because they have found that it is reliable at all times and under all conditions. It is sturdily built. It is simple in construction. It is powerful. It runs on either gasoline or kerosene and develops its full published horse power on a minimum amount of either. If you want an engine that you will be thoroughly satisfied with, put your money into an ALPHA.

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Why use a worn out Separator?

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Turns easy—Skims clean.
Oil Splash. Separate bowl spindle.
Six Sizes—135 capacity per hour to 800 lbs.
Guaranteed to give Satisfaction.
Low cash price or on time if desired.
Write for agent's address.
Catalogue and Prices.

King Separator Works of Canada,
BRIDGEBURG, ONT.

POULTRY.

FEEDING YOUNG CHICKS TO KEEP THEM IN HEALTH

Young chickens should be fed from three to five times daily, depending upon one's experience in feeding. Undoubtedly chickens will grow faster when fed five times than when fed only three times daily, but it should be borne in mind that more harm can be done to the young chickens by overfeeding than by underfeeding. Young chickens should be fed not more than barely enough to satisfy their appetites and to keep them exercising, except at the evening or last meal, when they should be given all they will eat. Greater care must be exercised not to overfeed young chicks that are confined than those that have free range, as leg weakness is apt to result in those confined.

The young chicks may be fed any time after they are 36 to 48 hours old, whether they are with a hen or in a brooder. The first feed may contain either moistened hard-boiled eggs, stale bread, pinhead oatmeal, or rolled oats, which feeds or combinations may be used with good results. Mashes mixed with milk are of considerable value in giving the chickens a good start in life. The mixtures should be fed in a crumbly mash and not in a sloppy condition. Dry bread crumbs may be mixed with hard-boiled eggs making about one-fourth of the mixture eggs, or rolled oats may be used in place of the bread crumbs. Feed the bread crumbs, rolled oats, or mixture five times daily for the first week, then gradually substitute for one or two feeds of the mixture finely cracked grains of equal parts by weight of cracked wheat, finely cracked corn and pinhead oatmeal or hulled oats, to which about 5 per cent. of cracked peas or broken rice and 2 per cent. of charcoal or millet or rape seed may be added. A commercial chick feed may be substituted if desired. The above ration can be fed until the chicks are two weeks old, when they should be placed on grain and a dry or wet mash mixture.

After the chicks are 10 days old a good growing mash, composed of 2 parts by weight of bran, 2 parts middlings, 1 part corn meal, 1 part low-grade wheat flour or middlings and 10 per cent. sifted beef scrap, may be placed in a hopper and left before them all the time. The mash may be either fed wet or dry. If fed wet, only enough moisture (either milk or water) should be added to make the feed crumbly, but in no sense sloppy. When this growing mash or mixture is not used, a hopper containing bran should be accessible to the chickens at all times. After the chickens are two months old they may be fed four times daily with good results. After they are three months old three feedings a day are enough.

When one has only a few chickens it is less trouble to purchase prepared chick feeds, but where a considerable number are reared it is sometimes cheaper to buy the finely cracked grains and mix together. Some chick feeds contain a large quantity of grit, and may contain grains of poor quality, so that they should be carefully examined and guaranty as to quality secured before purchase.

As soon as the chickens will eat the whole wheat which is usually in about eight weeks, cracked corn and other grains, the small-sized chick feed can be eliminated. In addition to the above feeds the chickens' growth can be hastened if they are given sour milk, skim milk, or buttermilk to drink. Growing chickens kept on a good range may be given all their feed in a hopper, mixing 2 parts by weight of cracked corn with 1 part of wheat, or equal parts of cracked corn, wheat, and oats in one hopper and the dry mash for chickens in another. The beef scrap may be left out of the dry mash and fed in a separate hopper, so that the chickens can eat all of this feed they desire. If the beef scrap is to be fed separately it is advisable to wait until the chicks are 10 days old, although some poultrymen put the beef scrap before the young chickens at the start without bad results.

Chickens confined to small yards should always be supplied with green feed, such as lettuce, sprouted oats, alfalfa, or clover, but the best place to raise chickens successfully is on a good range where no extra green feed is required. Where the chickens are kept in small bare yards, fine charcoal, grit, and oyster shell should be kept before the chickens all of the time, and cracked or ground bone may be fed. The bone is not necessary for chickens that have a good range.

LOSSES IN CHICKS DUE TO DIARRHOEA

By observing the methods of correct poultry raising, the loss from diarrhoea in little chicks can be greatly reduced. Ninety-five per cent. of the diarrhoea is not due to the white diarrhoea germ but to other causes. Among them are the following:

A little chick is apt to become chilled, which will cause it to have diarrhoea. This chilling may result from indiscreet use of the nursery tray of the incubator. For instance, one poultry raiser said that the nursery tray of his machine was registering 80 degrees, or 23 degrees below the egg tray. If newly-hatched chicks were put in a temperature of 80 degrees they would become chilled and diarrhoea probably would follow.

Again, many are careless in transferring chicks from incubator to brooder in a cool room and they fail to warm the container which the chicks are to occupy. The hands should be warm and the cloths with which the chicks are covered should also be warm. After they are placed in the brooder, every precaution should also be taken to keep them warm. The brooder should be kept at a temperature of 95 to 100 degrees the first week and reduced about one degree a day until the right temperature is reached. They should be kept warm enough so that they do not crowd at night and they should always be afforded a cool place to which they may go if they desire. Chicks raised with the hen should not be let out until the grass has become dry because a wet chick is apt to become chilled.

Another cause of diarrhoea is the overheated incubator or brooder which may interfere with the natural absorption of the yolk and cause trouble after the chicks are about a week old. Then, too, diarrhoea may be caused by feeding chicks musty or sour food. Corn meal which has become heated in the sack or bin and which has a musty odor should never be used for chick feeding.

Diarrhoea may also be caused by allowing the chicks to scratch in musty chaff. If this occurs, spores will become imbedded in the lungs of the chick and a white diarrhoea with high mortality will result.

In some cases, diarrhoea may be caused by the white diarrhoea germ which is said to be present in the ovary of the mother hen and, if this is the case, extreme sanitary precautions should be observed. Care should be taken to use only the most vigorous breeding stock available. The incubator should be cleaned and disinfected between every hatch and the brooder should be disinfected every time a chick dies. The incubator door should be darkened at hatching so that healthy chicks will not pick up the droppings of diseased chicks. The drinking water should be colored a claret red by the use of potassium permanganate and the chicks should be fed sour skim milk as soon as they begin to drink.

DO AS YOUR OWN JUDGMENT DICTATES

Your judgment says: "Take a Course in Business now. It is the best thing to do." You hear the command and yet hesitate. When you think of it, IT IS NOT AT ALL FLATTERING TO YOUR SELF-RESPECT TO DODGE THE DICTATES OF YOUR GOOD JUDGMENT.

Increased salary, multiplied opportunities mean independence, high standing in the community, the possession of more than ordinary luxuries, the chance to do things for yourself and for others.

Respect your judgment. Be fair to yourself. Start Now.

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G. J. Schmidt, Principal.
Moncton, N. B.

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Dear Sirs,—Your MINARD'S LINIMENT is our remedy for sore throat, colds and all ordinary ailments.

It never fails to relieve and cure promptly.

CHAS. WHOOTEN.
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Concrete Machinery for Farm Use
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Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas. Engines.

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WETTLAUFER BROS., LTD., Toronto, Ont.
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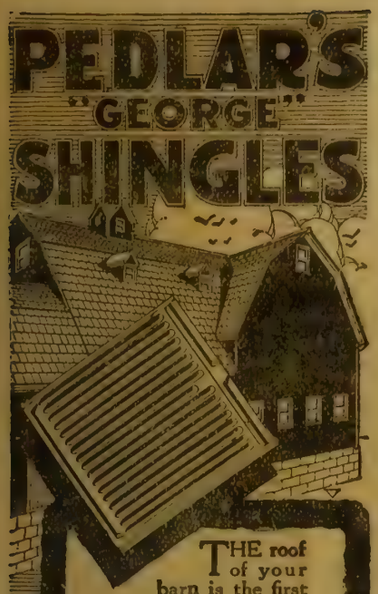
FLEET FOOT
Shoes on the Farm

For work and play—in the middle of the day—and when on pleasure bent.

For field, farm and wagon, wear Fleet Foot Shoes. They are far cheaper than leather—light, easy, comfortable—long wearing. For every-day wear, you will find them immeasurably better than hot, heavy, expensive leather boots.

When you're out for a good time, wear WHITE "Fleet Foot" Shoes. In fact, you must wear White Shoes this summer, to be well dressed. Dealers everywhere have "Fleet Foot" Shoes, in all styles for men, women and children. 201



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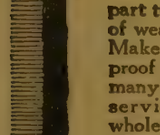

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"STICKS LIKE A BULL-DOG"

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STOVE BROODERS IN SUMMER

We have found the stove brooder more difficult to manage in the summer than in the early spring because of thedanger of overheating. We remove the curtains on the sides of the metal deflector and allow the chicks to choose the place which is just warm enough for their comfort. Often they will sleep in a ring at least one foot from the deflector on warm nights.

It is often difficult to keep the fire burning all day when it is checked down to the limit. We burn the stoves with the fire box only about half full of coal so that we can see the live coals. Then if the fire goes out it takes little time to clean out the fire box and build it again.

Frequently on warm summer days it pays to let the fire go out and then build it again about the middle of the afternoon. An inspection of the stoves is again in order after the chicks go to bed, and then everything will be all right until the next morning.

One advantage of the stove brooders is the ease of furnishing ventilation, and this is very important in the summer. The brooders can easily be regulated without a thermometer after some experience. We simply test the temperature by feeling with the hand and the chicks finish the necessary regulation by resting at the point from the stove which is the most comfortable.—R. G. Kirby.

POULTRY DISEASE INVESTIGATOR

Experimental Farms Note.

It will be of interest to poultry keepers throughout Canada to know that there is now an expert who devotes all his time investigating the diseases of poultry. Dr. A. B. Wickware, Assistant Pathologist to the Health of Animals Branch has been assigned to that work by Dr. Torrance, Veterinary Director General.

Dr. Wickware is by no means a novice in poultry diseases. For several years, under Dr. Higgins, Dominion Pathologist, he has devoted some of his time to the diseases affecting poultry and has given special attention to Black Head. Realizing the importance of investigations in poultry diseases, Mr. J. H. Grisdale, Director of Experimental Farms and Dr. Torrance arranged for Dr. Wickware to take up this question exclusively. He is therefore now co-operating with the Poultry Division, Central Experimental Farm, where, since last fall, he has been conducting experiments along this much needed and very important line of work.

Continued attention is being given to Black Head in turkeys and many new investigations are being started. These relate to chick diseases as well as to general diseases of poultry, including parasites of all kinds.

The annual losses that occur from poultry diseases and parasites are tremendous. No person knows what the amount is but it is well into the millions of dollars each year. Dr. Wickware's work will no doubt, do something to eliminate part of this, but the co-operation of all poultrymen who have any disease in their flock will be appreciated.

As usual, communications to the Experimental Farm re diseases of poultry will be welcomed and with Dr. Wickware now giving all his time to this matter, even more information will be available. Specimens of sick birds should be sent when practicable and may be expressed collect if addressed to Biological Laboratory, Experimental Farm, Ottawa.

BREAKING UP BROODY HENS

I make a coop of slats or wire netting, leaving it as open as possible, but just so the hens cannot fall through. Make the coop large enough to accommodate seven or eight hens. Hang it to the limb of a tree or set it off the ground outdoors so that the air can circulate around and under them, and so that the wind can swing them. If there is nothing under them so they can keep warm the setting fever is soon cooled out of them.

Don't feed them, and have the coop placed so that the hens can see the other hens enjoying their feed and freedom and that will increase their longing for liberty. Three days in this prison will break up most any old hen.

I have three of these coops and each evening I shut up the hens that want to set. I let those out that have been in three days, and by having three coops I can use them in rotation. I have some to let out each evening and can use the empty coop for the new ones. By taking a hen the first day she wants to set she is much easier broken up.—Mrs. M. Emrick.

(Editor's Note—This is a very effective plan and will quickly break up any hen. It is pretty tough on the hens to keep them for three days without food and water and this part of the treatment does more harm than good. I find it much better to give all the water they want and feed lightly on oats, barley or mash twice a day).

Goslings at first should be fed a mash of two parts shorts and one part corn meal. At the end of three weeks change to equal parts shorts and corn meal with 5% each of beef scraps and grit.

With eggs going into storage at 35 to 40 cents a dozen it is a pretty sure gamble that it will pay any farmer to raise a good flock of pullets. Feed them the best you know how and do not skimp on grain if you would get best returns for time and feed invested, for a poor pullet is of little value.

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217

THE HORSE

PREPARING FARM HORSES FOR SUMMER WORK

Too much stress cannot be laid upon the oft-repeated statement that increased production of crops on every Canadian farm is not only an economic necessity but also the patriotic duty of every Canadian farmer.

One of the most important requisites of increased production is the employment of cheap and sufficient motive power. The horse being the principal motive power on the farm must in consequence perform more work than ever before, and his preparation therefore at this season is a most important subject.

Horses can be maintained profitably on the farm only if producing cheap motive power or producing marketable foals. The cheapness of horse labour must be measured by the work done in proportion to money invested and feed consumed.

As a producer of power the horse competes with farm engines of all kinds, and should be rated accordingly. As with the engine so with the horse, the main requisites of cheap power production are sufficient weight and strength to perform the regular work easily and, when necessary, carry a fair overload for a short time, quality of construction ensuring durability and a capacity to consume sufficient fuel (feed- to generate all the power that is possible. As also with the engine, the thorough fitting of the horse for work will ensure the production of more power at less cost.

Development of Horse-Power

The power developed by a horse of the right type is made up entirely of the energy contained in his daily feed plus the reserve energy (stored fat and muscle) of the body. The storage of energy in the horse in this way is therefore advisable as preparing him for that time when most work is required. The possible available energy in the way of horse-power from a pound of oats is 425 units of power, and from a pound of timothy hay is 150 units of power, while one pound of wheat straw contains no available power, since the energy contained is less than the amount used by the horse to digest it. It is clear, therefore, that the energy must be contained in the feed and it must be in a readily available form.

For the average 1,500-pound horse at hard steady work a ration of 20 pounds oats and 15 pounds good hay produces about 11,000 units of power, which is about the work such a horse is capable of performing.

As the labour becomes heavier, so in the same proportion the food digested is diminished. Very severe work prevents digestion of food from 7 to 25 per cent. Hence, either more feed must be consumed by the horse or the reserve power of the body must be drawn upon to meet this extra demand. As an example of how extraordinary strain may interfere with digestion, it has been proven that the trotting of heavy horses even with a light load requires from one-half to four-fifths more feed per mile covered than when walking.

The heavy horse produces the most power for feed consumed when drawing a load at the rate of two and one-half miles per hour.

More horses, heavier horses, horses better prepared for work and fed for work will go far toward increasing and cheapening production per acre or per ton of crop. With the shortage of farm help at the present time, more and better horses will enable fewer men, when using larger and better farm implements, to maintain or ever increase production at a decreased cost.

Feeding in Preparation for Hard Work

Rest and fat are always the greatest enemies of the horse. Feeding in preparation for heavy summer work after an idle winter requires care and skill. Horses fattened during the winter are in poorer condition for hard summer work than horses kept on a good maintenance ration. The soft horse withstands heavy labour and the heat of summer very poorly.

The preparation of all horses for summer work should commence at once. Horses which are yet on a maintenance ration of rough feeds should now receive a medium grain ration and better quality roughage (preferably timothy) in increasing quantities until up to a full working ration at the commencement of the hard spring work. By the middle of March the horse should be on regular light work or at least regular exercise and a grain ration of from 10 to 12 pounds daily, divided into three feeds. At the commencement of the heavy spring work he should receive from 1 to 1¼ pounds of grain per 100 pounds of live weight. For example, a 1,500-pound horse should at that time receive from 15 to 19 pounds of grain and 15 pounds of hay daily. The best method of feeding is as follows:—

5 a. m. 6 pounds grain mixture, 5 pounds hay.

12 a. m. 6 pounds grain mixture, 3 pounds hay.

6 p. m. 4 pounds grain mixture, 8 pounds hay.

When the horses are idle for a day or so only, reduce the grain one-half.

Regularity in feeding and uniformity of feeds, both as to quantity and quality, are essential. Grain mixtures, such as oats 5 parts, bran 1 part; or oats 3 parts and barley 1 part will be found satisfactory.

One or more feeds of warm mashes per week are essential to prepare or maintain a working horse. A bran mash replacing the Saturday night grain is excellent. This might be replaced by boiled barley or other grains mixed with bran, and fed warm. If desired, saltpetre may be added as a blood tonic, and molasses as an extra laxative and appetizer.

Salt in the rock form should be in the horse manger at all times.

Watering the Horses

Water should always be given freely provided it is given frequently. Experience has proven that horses should be at liberty to drink both before and after feeding, but the larger supply should be previous to feeding.

Changes in Feeds

All changes in feed and work must be made gradually. If not, there is danger of colic, lymphangitis, and similar derangements. Gradual changes not only build up the muscles and energy of the horse but gradually strengthen the digestion in preparation for the heavy strain on these organs during the heavy work.

Clipping and Grooming

Clipping the horse in the spring when shedding commences will save much discomfort to the horse and much feed, and may also prevent overheating with resultant chills, colic, etc. Thorough grooming during the heavy working season will save feed and will increase the health, vigour, and power of the horse.

Harness and Shoulders

Many horses, especially young horses, are troubled with sore shoulders in spring. The preparation of harness and the fitting of collars will prevent this trouble. Clean the harness, fit the collar properly, and pay particular attention to cleaning collar pads and pounding them smooth. A careful daily washing of shoulders and withers with cold water or, better, cold salt water, will cleanse and toughen the skin in preparation for the severe work of warm weather. This washing should be continued from two to four weeks, depending on the age of the horse and the condition of the shoulders.

Caring of the Teeth

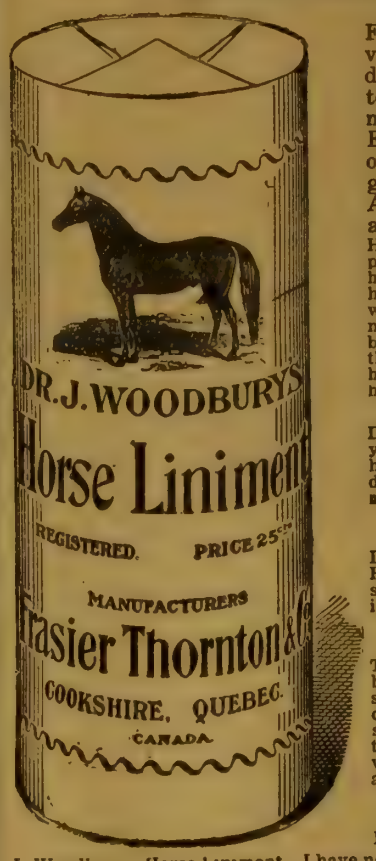
Owing to sharp corner and unevenness of the molars, many horses fail to properly masticate and digest their food. Have a good veterinarian or other experienced horseman examine the mouths carefully and file or "float" the teeth into normal condition. By so doing, much feed and horse energy will be saved.

Caring for Feet

Much valuable time and horse labour is lost annually by carelessness in attending to the trimming and shoeing of the feet of the horse. When the horse remains unshod throughout the entire year, care must be taken to keep the wearing surfaces smooth and even. When shoeing is necessary, particular attention must be paid to

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

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Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
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Yours truly, C. C. McLean.

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This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
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Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

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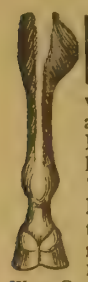

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NOTICE

The attention of owners of stallions is drawn to "An Act to Provide for the Inspection and Registration of Stallions," 5th George V., Cap. 18, and 6th George V., Cap. 44, under which all stallions travelled or offered for service must be enrolled at the Department of Agriculture on or before the 1st day of May, 1917.

Inspectors will be appointed by the Department, to report on each animal before a certificate is issued. Evidence of breeding and ownership must be submitted and a fee of $2.00 forwarded with application.

Further information can be obtained by applying to

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Fredericton, N. B.

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BUTTER PARCHMENT
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the frequency and correctness of trimming and shoeing. Improper care of the feet is largely responsible for much unsoundness and also for much torture to the horse, with the resulting loss of power.

Parasites

External and internal parasites, such as lice and worms, may cause the loss of 25 to 50 per cent of feed and horse-power. Rid the animals and stables of these pests. A few cheap window and door screens will do much to give comfort to the horses, not only in the keeping ut of flies but also in the providing of good stable ventilation during the summer months.—By E. S. Archibald, B.A., B.S.A., Dominion Animal Husbandman.

THE BROOD MARE AND HER FOAL

There are no animals about the farm that are so apt to be so badly used as the brood mare and her little colt. Humane treatment is the natural religion and duty of the farmer to all animal life on the farm. Also, if he desires a margin of profit from their keep and work he must use them humanely. It is not that farmers as a general rule mean to be cruel, but there is too often to be witnessed cases of careless attention to the mare and her colt, that suggest a lack of thoughtfulness.

A mare that is nursing a colt requires more attention than a dry mare, but they often have to take their place in the team alongside other horses, and are subjected to the same amount of work. "It does not pay to rear horses," is the verdict of the average farmer, and therefore h the average farmer, and therefore he still persists in pursuing the methods that place profitable horse rearing further and further away from the industry. It will be far better for a farmer to leave horse breeding and rearing alone, than to treat it as a nuisance. It is this policy that is keeping the horse industry in Canada at such a low ebb.

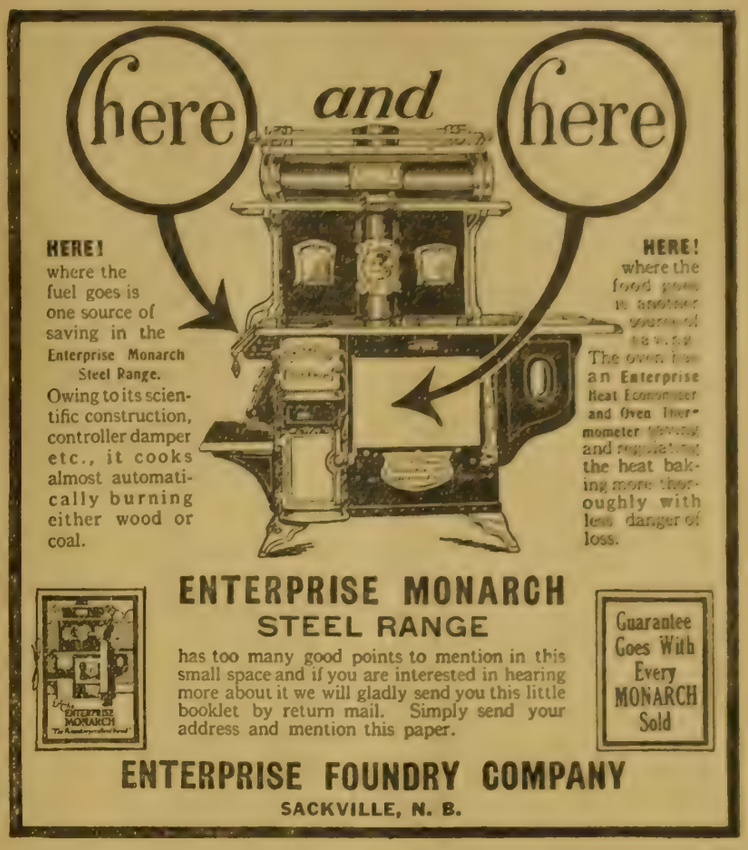
There are more colts dwarfed and mares injured by the dam being worked hard while suckling the colt than at any other time and by all other means whatever. She is then weak, liable to become overheated, and any disability experienced by the mare will surely be participated in by the foal. By taking a few sensible precautions in handling the brood mare before and after foaling, she may be made almost as useful from the standpoint of labor performed as the gelding or mare that raises no colt. As a rule when a mare has been worked hard and regularly up to the time she drops her colt, a holiday of two weeks, if at all possible, should be given her, before she again resumes avtive duties. The feeding during the holiday should commence with a reduced ration and gradually increased to the usual heavy ration. Of course is must be remembered that the mare that is carrying a colt must be better fed in the winter months previous to foaling, than the mare that carries no colt. And then again in spring and summer foaling, enough feed is necessary above the amount to support the work. Milk cannot be made from nothing.

When it comes time to put her back into harness, leave the foal in the box stall when she is taken out to work. He will fret at first, but he will soon get accustomed to doing without his mother. The customary practice of allowing the colt to run alongside the dam at work is nothing short of criminal. In its wanderings on the field after its mother it is doing proportionately more labor than the team, wasting all the tissue that builds up growth and conformation. This practice is responsible for many of the ailments that afflict their after life, and checks any development where selection of parents or care in breeding would have succeeded. Farmers who practice this argue that the foal gets a regular supply of milk, but they forget that the foal spends the extra milk in the exertions that he has to overcome in following the dam in her regular work. Also the colt has no opportunity to feed on anything extra. It goes without saying that some special attention should be given to the foal, and an ideal opportunity is afforded to do this when the little fellow is kept in the box stall. By putting grain into his mouth so that he gets the taste of it, he will soon get into the way of i. If one can get a reasonable amount of colt flesh on during the first month there is no reason why it cannot be maintained by a system of grain feeding even though the mare be put to hard work.

Many persons suppose that a colt needs no water. Nothing could be further from the truth. After it is a week old, the colt should be offered water once a day, at noon, and as it increases in age oftener each day. She will be soft and worry greatly, probably heating herself up quite badly. Beginning with half a day in this fashion, she may be gradually toughened back into doing her full share of the regular team work. A good plan, when the mare is excited and heated, when she comes in at noon, is to take some milk from her and then put her in a stall in the work stable to eat a little hay and cool off. After she has cooled off so she may be watered she may be taken to the box stall, turned in with the foal and fed her grain. Never let a foal suck milk from a warm mare. It sets up indigestion and starts scours. Always keep a bucket of water in the bo xstall so that the foal may take a drink whenever he wants it.

Another plan in working the mare with a young colt sucking her, that is adopted where the two weeks' holiday for the mare is impossible and where it is a necessity to work her a few days after foaling, is to divide the

(Continued on page 481)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HERE! where the fuel goes is one source of saving in the Enterprise Monarch Steel Range. Owing to its scientific construction, controller damper etc., it cooks almost automatically burning either wood or coal.
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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

WOMEN'S RESPONSIBILITIES OF TO-DAY

An address delivered by Miss Winter at a mass meeting held in St. John, in the Opera House, April 13, under the auspices of the St. John Housewives' League.

In these days of organizations for the purpose of cutting down expenses, days of close calculation of cost, when everything is reduced to a money basis in production, it is not surprising that discussion should have arisen over the great waste involved in the past and which to-day's WORLD CRISIS demands that we **should** and **must** give our whole-hearted attention to.

Almost in the same breath we hear the words **thrift, production, patriotism,** and so closely are they connected we might rightly consider one to be a synonym of the other.

The cost of living has soared by leaps and bounds, until at the present time it is not the increase in the cost of those foods which are classed as **luxuries** that bother the consumer, but it is the fact that the cost of the **plain necessaries** of life have made such rapid strides that providing for the wants of the family has become a serious problem.

Undoubtedly, the shortage in our own field and garden crops and the heavy demands for overseas consumption has resulted in a decreased supply for home use. Canada has sent between three and four hundred thousand men to the front and these men having been taken from the work of **production** are now engaged in the work of **destruction.** The producers are now the consumers. For these reasons it is the **duty** of every person to **produce** more and **save** more.

The individual has a responsibility in this thrift-production move, but by organized effort much more can be accomplished, thus the formation of Leagues, Women's Emergency Corps, Garden Clubs, and the united interest and co-operation of existing societies in reducing the cost of living.

I do not know if the aims and objects of Housewives' Leagues the Dominion over are entirely the same, but I do know that the reason for the formation of the one in your city has a very worthy object. If I may be permitted to do so, I am going to quote the aims: "Organized to secure the co-operation of the housewives of Saint John in encouraging thrift, promoting economy, putting the home on a business basis, studying to acquire the best method of buying and utilizing foodstuffs, and generally to work unitedly along the lines of preparedness for the harder times and higher prices in sight."

Keeping in mind these worthy objects, I shall endeavor to show by example and precept what the women working individually and collectively can accomplish for our Province, the Dominion and the British Empire.

Encouraging Thrift

The American Cookery Magazine, in its editorial pages for March, says, "the man of thrift **earns** largely, **plans** carefully, **manages** economically, **spends** wisely, and **saves** consistently. Thrift is all frugality, prudence, economy and industry,—and then some."

The Agricultural War Book for 1916 tells us that "Extravagance, always a folly, in these days becomes a crime; thrift, always a virtue, in these days becomes a national duty." Thrift means a system under which **all** can thrive,—not a system of senseless luxury and ambitions display for some, and of grinding poverty and hardship for others. We must all, every man, woman and child, feel **personally** responsible, and when we waken to that fact the sooner will we enjoy the blessings of peace.

Promoting Economy.

The cost of food means half the cost a family thinks she is economizing by of living, and the great problem of the housekeeper of to-day is to prepare the most nutritious dishes at the least cost.

A thoughtless provider of food for limiting the variety of her supplies. This is a grave error, as health **demands** a varied diet. Food must be selected to secure nutrition, energy, stimulation and indigestible waste products.

Among the Japanese, says the Youth's Companion, thrift is a virtue in high esteem. Two old misers of Tokyo were one day discussing ways and means of saving.

"I manage to make a fan last about twenty years," said one. "I don't open the whole fan wastefully and wave it carelessly about. I open only one section at a time. That is good for about a year. Then I open the next, and so on until the fan is used up."

"Twenty years for a good fan!" exclaimed the other. "What sinful extravagance! In my family we use a fan for two or three generations and this is how we do it: We open the whole fan but we don't wear it out by waving it. We hold it still, like this, under our nose, and wave our faces!"

This is merely to illustrate that very often the manner in whih some people go about it to practise economy, lacks judgment and they are doing more harm than good. There are many ways, however, in which we can **wisely** economize in order to reduce the food bill and the cost of living in general, but I have grouped what I think to be the most **practical** ways.

Fuel.

1st. Count Rumford says, "More fuel is frequently consumed in a kitchen range to boil a tea-kettle than with proper management would be sufficient to cook a dinner for fifty men." Therefore, keep an eye on the stove, close the drafts when not in use, and **save your fuel.**

Poorly Cooked Foods.

2nd. When the stove is in use, take heed to the cooking. Frequently one-half of the food is wasted on account of badly constructed ovens and lack of knowledge as to the temperature at which food should be cooked. Usually more heat is applied than is necessary.

Cooking Excessive Quantities

3rd. Do not cook more than is needed. Try to make the dishes served of such size that there will be enough to satisfy the appetite of the family and no unnecessary table or plate waste. Really, "left-over" materials should be avoided, but whatever is left over should be covered, when cold, and kept in a good condition until used.

Non-nutritive Foods.

4th. Do not buy materials that are of small nutritive value. Remember that, except in the case of milk for children, the amount needed of foods specially useful for body-building purposes, that is, meats and meat-substitutes, fruits and vegetables, is not large, but what is needed, is needed very much.

Foods Out of Season

5th. Do not buy foods that are out of season and consequently high priced, e. g., spring lamb, broiling chickens, early strawberries, early vegetables, etc. The prices of these lower as the season advances. Wait until our **native** products are plentiful and **then** buy.

Use Less of Staple Foods

6th. Notice carefully how much of such staples as flour, sugar, milk, eggs, butter, etc., are used each week for a month, and see if there are any ways of cutting down the quantity consumed.

Buy Nonperishable Materials in Quantities

7th. Buy nonperishable materials in quantities if better prices can be secured and there is a good storage place in the home. Neighbors can sometimes club together to get lower rates.

Foods Thrown in Garbage Can

8th. Do not be above noticing whether anything usable is thrown away with the garbage which always shows how thriftily food is used in a household, e. g., "cut-offs" from vegetables, "peelings" from apples, "trimmings" from meat. Boil potatoes with the skins on, then nothing will be lost in peeling.

"Finicky" Tastes in Food.

9th. "Finicky" tastes in food often prevent the use of many valuable materials which might be the means of saving money, e.g., rice, a substitute for potatoes; cheese' a substitute for meat. Corn meal is rich in both fats and proteids. Buckwheat contains nearly the same nutritive properties as wheat and they are only slightly less in amount. Both should occur more frequently in the diet.

Good Food Habits

10th. Good food habits are an important part of personal hygiene and thrift. Children get such habits by having suitable amounts of suitable foods served to them and then being expected to eat what is set before them.

Tells Just What They Did For Her

WELL KNOWN LADY MAKES A STATEMENT REGARDING DODD'S KIDNEY PILLS

She Had Numerous Troubles, All of Which Came From Diseased Kidneys and Found a Cure in Dodd's Kidney Pills.

Ayre's Cliff, Que, May 21st—(Special).—Mrs. W. Coules Macdona, of The Farm, a member of one of the oldest families living in this neighborhood has consented to give the public the benefit of her experience with Dodd's Kidney Pills.

"My trouble started from overwork," Mrs. Macdona states, "and I suffered for two years. I was treated by a doctor, but the results were not satisfactory. My joints were stiff, I had cramps in my muscles, my sleep was broken and unrefreshing and I was heavy and sleepy after meals. I had bad headaches, my appetite was fitful and I was always tired and nervous. I was depressed and low-spirited, I had a bitter taste in my mouth in the mornings and I was often dizzy.

"I perspired with the least exertion and I often had sharp pressure or pain on the top of the head. Then rheumatism was added to my troubles. I have taken just two boxes of Dodd's Kidney Pills and they have done me good, not only in one way, but in many. Even my rheumatism is much better."

Mrs. Macdona's symptoms all showed that her kidneys were wrong. If you have similar symptoms try Dodd's Kidney Pills.

MAGIC BAKING POWDER

E.W.GILLETT COMPANY LIMITED
WINNIPEG TORONTO, ONT. MONTREAL

YOUNG WOMEN MAY AVOID PAIN

Need Only Trust to Lydia E. Pinkham's Vegetable Compound, says Mrs. Kurtzweg.

Buffalo, N.Y.—"My daughter, whose picture is herewith, was much troubled with pains in her back and sides every month and they would sometimes be so bad that it would seem like acute inflammation of some organ. She read your advertisement in the newspapers and tried Lydia E. Pinkham's Vegetable Compound. She praises it highly as she has been relieved of all these pains by its use. All mothers should know of this remedy, and all young girls who suffer should try it."—Mrs. MATILDA KURTZWEG, 529 High St., Buffalo, N. Y.

Young women who are troubled with painful or irregular periods, backache, headache, dragging-down sensations, fainting spells or indigestion, should take Lydia E. Pinkham's Vegetable Compound. Thousands have been restored to health by this root and herb remedy.

If you know of any young woman who is sick and needs helpful advice, ask her to write to the Lydia E. Pinkham Medicine Co., Lynn, Mass. Only women will receive her letter, and it will be held in strictest confidence.

Eating More Than Necessary

11th. Don't eat more than necessary and don't eat between meals. Perhaps this clipping I took from a magazine entitled "The Diet Deliberate" will encourage less eating:—

"Somewhat less speedily,
Somewhat less greedily,
Grind every bite to a superfine pulp.
Don't be a glutton and burst every button;
Don't bolt your meals at an orgre-like gulp.
In the war on high prices, the latest advice is,
To masticate slowly your bread and your meat,
To practise economy in your gastronomy
The longer you chew things the less you will eat!"

Save the Light Bill.

12th. Be saving on the light bill. Take heed that lights are turned off when occupants have gone out of the rooms. The use of mantels on gas jets and especially filament lamps on the electric current increases the efficiency of the light greatly and decreases the amount of expense.

Weigh Groceries

13th. Weigh your groceries and be on the alert for little leaks. Have correct scales in the kitchen and every parcel purchased by weight should be put thereon and weighed before the delivery boy leaves. Did you ever stop to consider that a shortage of a quarter of a pound of meat at 20 cts means 5 cts? If this should occur 20 times in a month, it means $1.00 and in a year $12.00. In many homes the order slip is not checked up with the goods delivered. This is not always the fault of the grocery man. Frequently careless help deliver packages at the wrong places.

Shop Personally

14th. Shop personally. It is no disgrace to do your own marketing. The former Mrs. Galt, an excellent cook, exceptional housekeeper, and an intelligent marketer, always did her marketing in person until the day of the announcement of her engagement to President Wilson.

The woman who depends on the telephone to do her buying is not likely to receive as careful service as though she went in person to select her supplies. Possibly some have no help and find it inconvenient to go out, but supplies for the following day can be ordered in the afternoon, in fact supplies enough to last for several days can be purchased in one trip.

Go to the market or the store and let the people you trade with know of your tastes and that you are a discriminating buyer who knows what you want and insist on having.

Buy Canadian-grown and Manufactured Goods.

15th. When you cannot purchase New Brunswick grown produce, buy Canadian-grown and Canadian manufactured foods. There are too many imported jams and canned foods on our grocers' shelves. Leave them there and they will disappear.

Cuts of Meat

16th. Acquaint yourself with the various cuts in meat and know their food values. It is well said that "careful marketing depends on careful planning and on the other hand, successful, efficient marketing is based on exact planning." From 25 to 60 cents can be saved on the week's supply of meat if this be bought in bulk and sub-divided into smaller cuts for each day's dinner. Take, for instance, a fore-quarter of lamb, or a shoulder of veal; each will furnish at least three meals of fresh cooked meat, besides "made overs"; the fore-quarter will cut into a shoulder roast, a dish of rib chops, and the neck will boil or stew; the whole will be bought at a relatively low figure, whereas if subdivided and bought separately, the cost of the choice cuts would add at least 25 cts to the total outlay; while in the case of veal, probably an even greater saving will be affected.

There may be two objections to this statement. 1st. Some may disapprove, giving the excuse that such economy dooms a household to a monotonous diet. But this is not so. If one joint be served as a roast, another as a broil, the third as a savoury stew, there will be no complaints of monotony.

2nd. Some may not think it worth while to save 25 cts but, if 25 cts. a week be saved for a year, that means $13. Now, if a calculation of the net gain to the national funds were made if each household in Canada alone thus saved and handed over to the Government, the total proceeds at the end of twelve months, the grand total would be startling.

System in All Things.

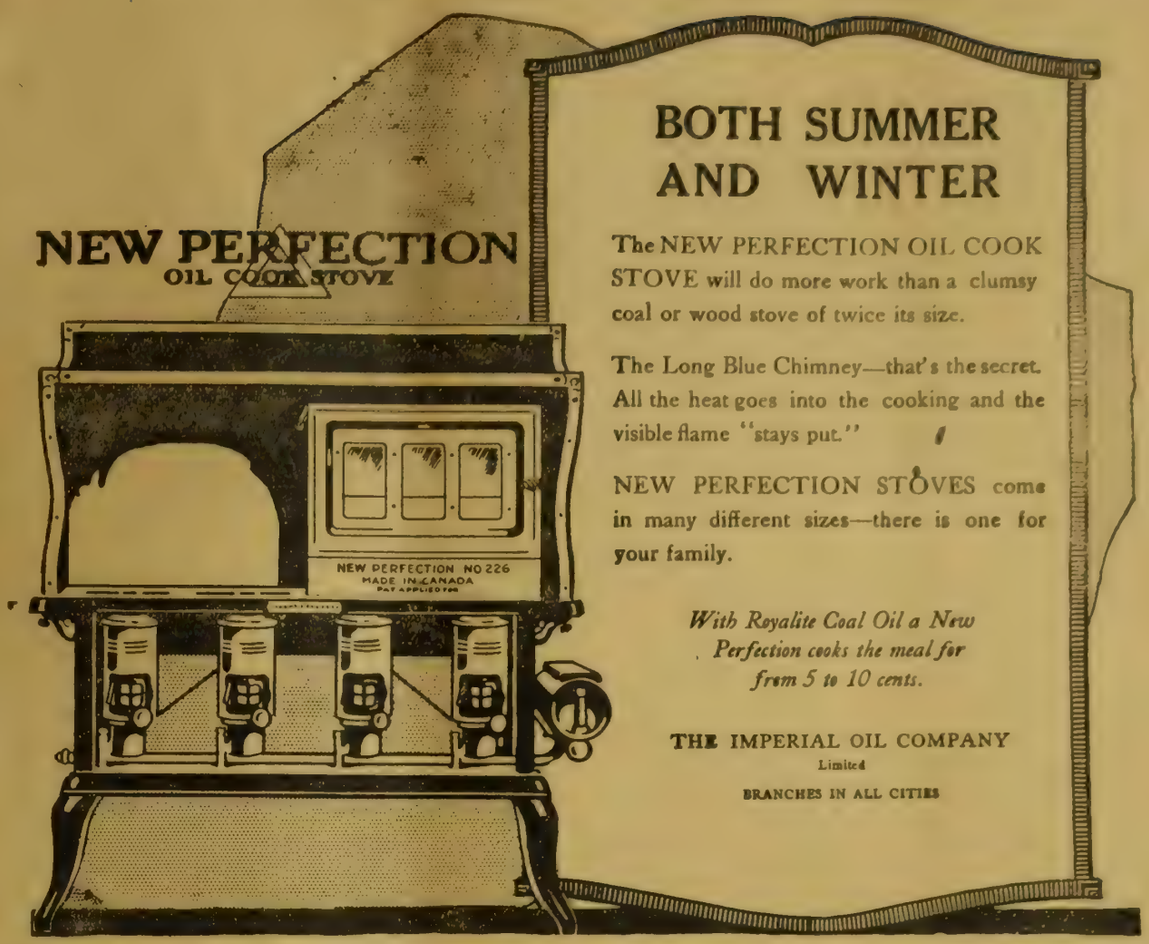
17th. Be systematic in all things, in the saving of time, money and strength. Put yourself on a weekly allowance; keep tabs on every expenditure and cultivate habits of saving. People yet rich in two ways: the minority through skill and success in investments and trading; the majority through systematic saving of small sums.

Patronize Home Industries

18th. Patronize home industries. First, give your local merchants patronage thereby making it easier for them to give you fair prices. Then, if you can't get what you want at home, buy "Made in Canada" goods. Don't rush large orders to Mail Order houses, sending that money out of your own Province. Let it be spent to employ labor at home and make the stores in our own Province more attractive. Just as soon as you give your trade to local merchants, all the more quickly will they be in a position to keep in stock what you need.

Order in Large Quantities

19th. Give large orders once a month, and pay cash for everything you get. Remember that the consumer pays for the time-payments and the

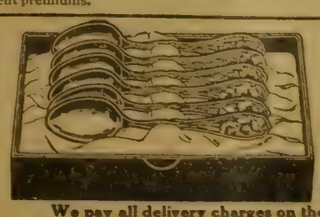

NEW PERFECTION
OIL COOK STOVE
NEW PERFECTION NO 226
MADE IN CANADA
PAT APPLIED FOR
BOTH SUMMER AND WINTER
The NEW PERFECTION OIL COOK STOVE will do more work than a clumsy coal or wood stove of twice its size.
The Long Blue Chimney—that's the secret. All the heat goes into the cooking and the visible flame "stays put."
NEW PERFECTION STOVES come in many different sizes—there is one for your family.
With Royalite Coal Oil a New Perfection cooks the meal for from 5 to 10 cents.
THE IMPERIAL OIL COMPANY
Limited
BRANCHES IN ALL CITIES

97 Piece Dinner Set and lovely Silverware Given To You

YOU can secure without a penny of cost this magnificent complete 97-piece English Dinner Service and a lovely set of half-dozen Wm. A. Rogers teaspoons. Each dinner service is guaranteed full size for family use, its 97 pieces comprising 12 cups and 12 saucers, 12 tea plates, 12 dinner plates, 12 bread and butter plates, 12 soup plates, 12 sauce dishes, 2 platters, 2 oval covered vegetable dishes, a cream jug, covered sugar bowl, a gravy boat, pickle dish, and a salad bowl. It is handsomely decorated in rich floral design and will surely delight the most fastidious housekeeper. The beautiful set of Teaspoons are in the famous Wm. A. Rogers French Carnation design with French grey handles and brightly polished bowls.

Read our Wonderful Offer

We are determined to establish a national reputation for Dr. Edson's Famous Life Building Blood Tonic and Nerve Pills and are sparing no expense to secure representatives in all parts of Canada who will help us by introducing this famous remedy to their friends and neighbors. That is why we offer to give away these magnificent premiums.



Carnation French Canadian Teaspoons

Genuine Wm. A. Rogers make—the most beautiful pattern ever seen. These magnificent spoons will delight any housekeeper and they are guaranteed to give every satisfaction in wear.

We pay all delivery charges on these Grand Premiums

Will you sell just 12 boxes among your friends at only 25c. per box?

You can easily do this because every one you know will be glad to learn of this grand remedy. It is one of the world's best known proprietary blood and nerve remedies for weak and insane blood, run-down, over-worked, nervous and anaemic. In all run down conditions of the system it will be found a genuine blood builder and revitalizer, and as a general tonic for blood and nerves it has no equal.

Send No Money—Just send your name and address to-day and we will send the 12 boxes postage paid. You will be glad to know that there is a big profit to every purchaser of a box can obtain a beautiful set of genuine Rogers silverware. Then return our premium, only $3.00, and we will promptly send you, all delivery charges paid, the beautiful set of spoons, and the handsome dinner set you have received without selling any more goods for same showing your fine premium among your friends and getting orders of them to sell our goods and earn our fine premiums as you did. We pay all delivery charges right to your door.

REMEMBER YOU TAKE NO RISK. You do not spend a cent of your own money. We trust you with our goods until sold and if for any reason you cannot sell them we will take them back and give you beautiful premiums or pay you a big cash commission on the quantity you do sell. Write to-day if you wish to take advantage of this liberal offer. It gives you the opportunity of a life time. Address

The International Mfg. Co., Dept. D 116 Toronto, Ont.

COULD NOT SWEEP BACK WAS SO SORE.

Women are coming to understand that weak, lame and aching backs from which they suffer so much excruciating pain and agony are due to wrong action of the kidneys.

On the first sign of any weakness in the back Doan's Kidney Pills should be taken.

Mrs. L. Gonshaw, 683 Manning Ave., Toronto, Ont., writes: "I take great pleasure in writing you, stating the benefit I have received by using Doan's Kidney Pills. About three years ago I was terribly afflicted with lame back, and was so bad I could not even sweep the floor. I was advised to use Doan's Kidney Pills, and before I had used one box there was a great improvement, and my back was completely cured. I highly recommend 'Doan's' for lame back."

Doan's Kidney Pills are put up in an oblong grey box, the trade-mark is a Maple Leaf, so accept no other.

Price 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

When ordering, direct specify "Doan's."

daily delivery.

Boycott the Market

20th. When prices are high on certain foods for which there does not seem to be a good reason, boycott the market. The woman citizen represents the greatest consuming and purchasing power. She must be a close observer of the market quotations and she will discover that there is more economy in proper spending than in actual buying. When prices soar, she will control the market by not buying, and prices will drop. She will questions the "below-profit quotations" and fight shy. She will believe in justice and fair deal and will buy when prices are right.

Not long ago a potato dealer from Fredericton went to Boston to sell potatoes and the men he had been in the habit of selling to, refused to buy. He said, although some few weeks ago he could easily sell 75 barrels a day, to-day he could not sell 15, simply because the people refused to buy and were eating rice instead.

A Garden for Every Home

21st. Have a backyard garden How much more palatable are vegetables freshly picked, and as they are so necessary to the diet they may be included in the daily meals more frequently if raised in the home garden. Almost every home has some little spot where vegetables can be grown, and in the preparation of the garden it is such healthful recreation to get close to Mother Earth.

The raising of these appetizing, delicious and nutritious food products helps to lessen the desire for the more expensive kinds of foods. Write to Mr. S. C. Johnston, Vegetable Specialist, Ontario Department of Agriculture for his circular entitled "A Vegetable Garden for Every Home," and to Mr. Arthur Gibson, Chief Assistant Entomologist, Department of Agriculture, Ottawa for Circular 9, "Common Garden Insects and Their Control."

Home Canning

22nd. Do your own canning! People with a garden and the necessary time can greatly lessen the cost of food by canning their own fruits and vegetables, and even if it is impossible to have a garden, by getting in touch with the farmer, native produce can be bought in quantity at a reasonable price for canning. It is by far cheaper than purchasing canned goods, and during the winter and spring months lends a variety to the meals which every member in a household is sure to appreciate. Meats also may be canned to advantage when prices are low. Write to Mr. E. L. Davies, Demonstrator in Bacteriology, Ontario Agricultural College for Bulletin 236, "Home Canning of Fruits and Vegetables." This is a bulletin for free distribution and is very helpful.. Apply to the Women's Institute Division, New Brunswick Department of Agriculture, for a canning demonstration. It is much more practical to actually see a thing done than to merely read how it is done.

Utilizing Vacant Lots

23rd. Make use of vacant lots for vegetable growing. By working unitedly in this respect the women can be prepared to cope with the harder times and higher prices in sight.

Mr. W. T. Macoun, Dominion Horticulturist, Ottawa, has published a most instructive bulletin entitled "Garden Making on Vacant Lots," and the introduction to the bulletin reads as follows:

"The British Empire will need all the food that can be produced in 1917. Canadians can do much, if they will, in increasing the production of vegetables. Everyone in cities and towns with vacant land should consider sreiously whether they can utilize it for the growing of some kind of vegetable. By growing vegetables for one's home use, this food, which would otherwise have been bought, will be available for some one else. If $25.00 is saved in the food account, one will even more cheerfully contribute to the relief of those suffering for lack of food."

As an association you should materially increase the food supply in this direction and with the assistance of the young people, especially the Girl Guides and Boy Scouts, the results in the Fall should be very gratifying.

The leaflet gives detailed information as to the results obtained in Toronto, Ottawa, Regin and Calgary. Write for Mr. Macoun's bulletin and interest the various organizations in the city in a production campaign.

Conversation with a Merchant.

To get nearer to the bottom of this subject on reducing the high cost of living, I am going to tell you of a conversation I had with a groceryman the other day.

I asked him, as a merchant, to tell me frankly what the consumer could do to lower the cost of food. He said, "Miss Winter, the prices are bound to advance and in certain lines of food little can be done to lower the prices. It is not the middlemen who should receive investigation but the manufacturers. Take, for instance, fine salt. There are two manufacturers in Canada who control the sale of fine salt. They set their price and the wholesale dealer must sell to the retail merchant at the price dictated by the manufacturers."

"Now," said the grocer, "I gave an order for fine salt not long ago. Up to the present time customers have been paying 5cts a bag, but when I figured out what I had paid the wholesale dealer, I came to the conclusion I could not afford to sell it at 5cts a bag again. The manufacturers are to blame for this, but whether or not they raised their prices when it was not necessary, I am not in a position to say."

Law Against Combines

The Dominion Government has overcome (?) the difficulty of large manufacturing concerns organizing combines. All corporations in doing business in Canada are taxed on the excess profits above a certain percentage for war purposes and recently laws were made against any combine in prices.

Difficulties of Merchants

It is my opinion the retail merchant has to suffer about as much as the consumer. If one goes to a store and purchases, say a pound of butter at 45cts, for which the merchant paid to the farmer 40cts, he is only making a little over ten per cent. profit, if the customer pays for it. The merchant is bound to pay cash to the farmer for the produce he buys. A farmer is very reluctant at exchanging his products for groceries (no doubt because he wishes to be loyal to that little grocery store in his own community), and yet how long the merchant has to wait for his pay from customers.

Suppose the merchant has a large order coming in from the wholesale dealer. He must pay for that within thirty days and if not, for each day over thirty he has to pay seven per cent.

We go to the store and purchase this thing and that, with every intention of paying our bills at the end of the month, but frequently we let them run into the second month and even longer. The merchant has to pay cash for his orders as well as carrying along the bulk of his customers.

Now, do you not think that if we paid cash for all we bought we would be getting closer to the roots of practically everything to lower the cost of living, This, as all merchants will tell you, is one of the secrets of cheaper living.

Pledge of British Columbia Consumers' League

I do not know, if, when joining your Housewives' League, each member is asked to take a pledge, but this is the pledge of the British Columbia Consumers' League, and I think if you had just such a pledge it would make your work much more effective:

"Realizing the importance of promoting the industrial and Agricultur-

Believes She Was Saved From Srtoke of Paralysis

All One Side Was Cold and Powerless When She Began Using Dr. Chase's Nerve Food.

A dead nerve cell can never be replaced. In this way it is different to other cells of the human body. But feeble, wasted nerve cells can be retored, and herein lies hope.

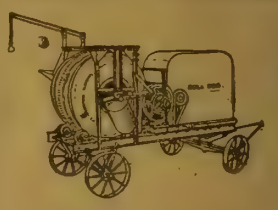
In this fact is also a warning to take notice of such symptoms as sleeplessness and loss of energy and ambition, and restore the vitality to the nervous system before some form of helplessness results.

Nervous prostration, locomotor ataria and paralysis are the natural results of neglecting to keep the nerves in healthful condition. The use of Dr. Chaes's Nerve Food when you suspect there is something wrong, will soon restore vitality to the nervous system, and thereby prevent serious developments.

Mrs. Merritt Nichols, R. R. No. 3, Dundalk, Ont., writes: "I take pleasure in writing to tell you the great benefit I have derived from the use of Dr. Chase's Nerve Food. I was so nervous I could not sleep, and found it hard to get my work done at all, but, having no help at the time, had to do the best I could. Finally my left arm became powerless and cold, and this continued to get worse until my whole side was affected, head and all. I decided to try Dr. Chase's Nerve Food, and the first box helped me so much that I used several, and believe that this treatment saved me from having a paralytic stroke. It has built me up wonderfully, and I can recommend it most heartily, believing that if more Nerve Food were used there would be less sickness."

Dr. Chase's Nerve Food cures in nature's way by nourishing the feeble, wasted nerves back to health and vigor. Fifty cents a box, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

"BULL DOG"
London Concrete Mixer



Capacity 50 cu. yards per day. Price $325.00 complete with gasoline engine. Pays for itself in 20 days' use. Built to last a life time. Send for catalog No. 1 B.

LONDON CONCRETE MACHINERY CO., Dept. E, London, Ontario

World's Largest Manufacturers of Concrete Machinery

THROUGH

BOSTON-HALIFAX

SLEEPING CAR

CANADIAN GOVERNMENT RYS.

A thorough Sleeping Car between Halifax and Boston is now in operation. Leaving Halifax on the Ocean Limited 7.00 a. m., the car will arrive Moncton 2.00 p. m., daily except Sunday, be transferred to No. 13, leaving Moncton 2.20 p. m., and run through to Boston, arriving there 8.30 a. m. From Boston the car will leave 7.30 p. m. daily except Saturday, arrive Moncton 5.20 p. m. daily except Sunday, be transferred to the Ocean Limited leaving Moncton 6.00 p. m., and arrive Halifax 12.20 a. m.

DON'T PUNISH

the sick child by forcing him to swallow nauseous oils and mixtures. Children dread these remedies, and this leads them to hide the little ills until serious trouble results. Most of childhood's troubles originate in constipation and disorders of the stomach. To correct these conditions you will find nothing better than

Chamberlain's Tablets

One tablet at bedtime will do the work and make your child bright and sunny the following morning. The liver is stimulated, the stomach cleansed and the bowels purified—safely and gently. Little folks appreciate them.

25 cents at all dealers, or from

Chamberlain Medicine Co., Toronto 40

CHAMBERLAIN'S TABLETS

Good for children

al progress of British Columbia and the Empire, I hereby ask to be enrolled as a member of the British Columbia Consumers' League, agreeing to advance the objects of the League by giving preference in purchasing (price and quality being equal) first, to the products of British Columbia; second, to those of Canada; third, to those of the British Empire."

No fee of any kind is connected with signing this pledge, but each member is asked to purchase the British Columbia Consumers' Magazine at a cost of 50cts per year. This magazine is published monthly and the manufacturers and large producers tell of their products and only those firms whose goods are of the highest quality, firms who do not fear to add their name and tradesmark to every article, are allowed advertising space in the League's publication. In the event of any Eastern Canadian or Old Country firm being granted space, readers understand that there is no firm in British Columbia producing that particular line of goods or that the League does not stand by the quality being produced.

Beneath a picture of the Union Jack, hanging in the office of this League, at Vancouver, are these heart-stirring words, "You would fight for it: Will you buy for it?"

As a result of the work done through the Consumers' League, assisted by the Department of Agriculture, stores that are featuring United States produce when they can get local produce, are being to a certain extent ostracized and are beginning to see that it is to their advantage to secure home-grown produce.

Money Spent Outside the Province

One of the discoveries made by this League was that in one year alone, in British Columbia, $5,290,670 worth of imported products from countries other than Canada were brought in, paid for and used. That large sum of money went to enrich other lands, (among them Germany.)

This League has been endeavoring to show the one, sure, common-sense, practical way this woeful waste can be eliminated. It requires little, if any sacrifice; only a certain amount of thoughtfulness and perseverance, by just demanding and insisting upon being supplied with British Columbia grown and manufactured goods. Why, in a little over one year, the League has pledged over 9000 families to buy British Columbia produce to the exclusion of imported articles.

Take our own Province, for instance. If, as a League, you were to find out how much money goes out of our Province that could be spent in it, do you not think the figures would astound us? Then, too, consider the hundreds of acres of fertile land in our Province that lies undeveloped and much of the rich product of cultivated land that lies rotting on the ground. Farm produce brought in to St. John in 1908 from outside the Province for Provincial consumption amounted to $2,750,350. Do you think if statistics were secured, the figures would be larger or smaller at the present time?

LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:

Mrs. M. Summers, Box 309 Windsor, Ont.

A MESSAGE TO WOMEN!!

GIRL'S LONG COAT.

By Anabel Worthington.

The same skill in design, similar choice in fabrics and the same nicety of details that mark the coats for women's "superior models" are noticeable in this season's coats for junior girls. As an evidence we illustrate No. 8,096, an exact copy of one seen at an exclusive shop specializing in girls' apparel.

By reason of its deep, wide collar that comes close to being a shoulder cape, its loose panel back, belted sides and straight front it may be classed with the prettiest and smartest of imported models. Without showing any "fussy" feature it is up to date in detail and design and is sure to please any girl and any girl's mother. The sleeve is given a fancy touch in its cuff and may be braid trimmed, or velvet or plush may contribute the full cuff. The collar may be either of self material or fur cloth, unless velvet or plush be chosen.

Bolivia cloth, zibeline, kersey cloth, also wool tweed and wool novelty cloth that is so popular enjoy equal merit. Considering the cost of materials, one will not hesitate to make the coat at home, for to-day's pattern, with illustrated instructions, is simplicity itself.

The coat pattern, No. 8,096, cuts in sizes 8 to 14 years. To make in size 10 requires 3¾ yards of 36 inch material, ⅝ yard of 27 inch material for the collar.

To obtain the pattern send to the office of this publication.

CHILD'S COAT.

By Anabel Worthington.

Age has nothing to do with it when it comes to "coat styles." The designers see no reason why the children's models should not denote the semi-fitted or loose contour that is so well liked by their elders. Even the large novelty collar is a necessity, adaptable, however, for the little lady of fashion.

You see one of the best looking coats of the season when you look at this picture of a small girl's model. It has the required ripple fulness, unbelted to show the straight line effect. It will be following the style to enrich the collar with fur banding, or it may be made of velvet or plush.

The frill finish or a cuff will be correct for the sleeve and the buttons may be covered with material or velvet or plush if it be used in trimming. Bolivia cloth, Kersey and the like are suitable for a practical garment—also corduroy. For dress up, velvet will be smart, although velour and broadcloth make a number of the models displayed. At half the cost of a bought one you can make this from the pattern.

The coat pattern No. 8,085 cuts in sizes 2 to 8 years. To make in size 6 requires 2¾ yards 36 inch material.

To obtain the pattern send to the office of this publication.

Grain for Liquor

I was very much pleased to read in a newspaper of recent issue that in Leeds, England, at the conference there of the independent labor party a resolution was unanimously adopted calling on the Government to prohibit absolutely the use of foodstuffs in the manufacture of alcoholic liquors during the war.

No Government in the British dominions has had the courage to suppress the greatest waste of all wastes, namely, the turning of good foodstuffs into alcoholic liquors, where they are worse than wasted, as far as any real food value is concerned.

Although Lloyd George, has not dared, in the face of public opinion, to deal severely with the situation, if all societies took the stand that the Independent Labor Party of Leeds did, such a law might soon be enforced.

Mark Twain says, "'Tis noble to be good, but 'tis nobler to teach others how to be good,—and easier too." Thus in the work of your League, it is easy to talk, to preach, but if you do not act, you are failures. If you are going to succeed, you must live up to the principles involved in your objects.

Less Spent on Dress, Etc.

There are so many ways in which we women can further save so as to be in a better position to meet the patriotic calls of the day and the more strenuous times ahead.

Let each one ask herself, "Am I willing to make the sacrifice when it comes to doing without a new hat, a new pair of boots (which are as high in price as in length)? Can I make my last summer's suit do for this summer? Am I willing to make the sacrifice when it comes to less entertaining and attending places of amusement?

The other day I asked a gentleman to tell me of one way he thought the cost of living could be reduced and this is what I gathered from his remarks:

The craze for amusements and extravagancies of all kinds, so noticeable before 1914, has been much accentuated by the false prosperity due to large war expenditures and the great amount of money thus put in circulation. If the people of Canada would deny themselves of all unnecessary articles and of all pleasures except those which God furnishes free to all his creatures, an immense amount of labour and raw material now practically wasted would be set free for really necessary purposes, and the cost of living would be substantially reduced.

If the question is always not: "Could we make good use of this?" but, "Can we do without it?" the problem of economy is far on the road to being solved.

A Motto for the League

"Our doubts are traitors and make us lose the good we oft might win by fearing to attempt." Let us unloose the shackles, dear ladies, and so live that we may supply the "silver bullets" which will finally beat the Germans. Let us ever keep before us: It was the money spent by us and our Allies that enabled Germany to make war against us. And to this end let our motto be:

"Our living shall be simple; our saving systematic; our service to the Empire, 'Ready and Willing.'"

God give us WOMEN Patient, brave, earnest, self-sacrificing women. A time like this demands strong minds, great hearts, true faith and ready hands.

FOR REMOVING STAINS

For an Old Stain

Use Javelle water.

Method: If large stain, soak in solution, rinse, boil in cold water. Wash in usual way and leave in sun.

For Mildew Stain

For fresh stain: 1. Lemon Juice and salt. 2. Strong soap-suds. 3. Powdered chalk and soap. 4. Powdered chalk and salt. For old stains use Javelle Water or chloride of lime.

For Fresh Paint Stains

Use benzine, turpentine or alcohol. If on delicate fabric use chloroform or ether. Method: Soak in any of these and rub well. Wash in soap and water. For an old paint stain use equal parts of ammonia and turpentine.

For Varnish Stains

Use equal parts of ammonia and turpentine. Chloroform and alcohol are best.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

"THE STRENGTH OF THE EMPIRE LIES IN THE HOMES OF HER PEOPLE"

"New occasions teach new duties," and this war is fast bringing to a crisis a food famine unless we immediately get down to the business of PRODUCING MORE and SAVING MORE.

That the food famine may be averted, we strongly urge the women of our land and especially organized societies like the Women's Institutes, to don their "thinking caps" and do all in their power for NATIONAL SERVICE.

The individual can do much by preaching and practising, and becoming so enthused in this much needed production campaign that others are bound to "catch" the enthusiastic germ and work with such a will as to give desirable results.

The organization can lighten the task and give it a more cheerful aspect by inviting competition and awarding prizes. If the organization would award prizes for most attractive vegetable gardens or hold Autumn Fairs and give prizes for best grown vegetables; in fact consider it a duty to do anything and everything that will bring about a greater food supply, the sooner will we be enjoying the blessings of peace.

The woman in the home has always done considerable preserving and canning, but this year it is a patriotic demand that her yield be at least double that of former years. She must devise schemes whereby she can preserve the produce of her garden, whether it be by canning, preserving, drying or cold storage. And again the organization has its part to play. Any woman is sure to take a deeper interest in the preservation of food if the works of her hands are to be exhibited and there is a possibility of her carrying off the prize.

It is proposed to give the delegates at the Fifth Annual Convention of the New Brunswick Women's Institutes an opportunity to see the results of women's efforts to save the foods to be used during the next winter and spring. A CANNED EXHIBIT will be an attraction. Liberal prizes will be awarded to the Institutes for best quality of New Brunswick grown canned fruits and vegetables. Particulars as to this exhibit will be forthcoming in the near future.

"Pity 'tis, 'tis true" that this war was needed to bring to light many dormant talents. The war has given woman her opportunity but, alas, the suffering, the misery, the sorrow involved! Would she not willingly have waited until woman's part in the economic development of her country had come as a matter of course? This latent talent should be scattered abroad and the organization should make use of the woman to spread the gospel along all lines of ECONOMY and PRODUCTION. As never before, women should make a study of foods, their composition, selection, combination and preparation, so as to meet the needs of the family without waste of money or material.

The Department of Agriculture is ready and willing to co-operate with any society wishing information along all lines of THRIFT and PRODUCTION, whether it be a canning demonstration, a lecture, or both. In response to a circular as to the nature of a public meeting to be addressed by a Departmental representative, Women's Institutes are asking for talks on Institute work, demonstrations in various lines of cookery, lectures on Women's Responsibilities of To-day, etc. If anything is desired in addition to what has been requested, the Department will meet the wishes of the Institutes, providing same are confined to subjects that stand for NATIONAL SERVICE and requests are to hand by June 15th. In order to comply with these requests the Department is engaging a number of trained workers for the summer and fall months, and every effort will be put forth to meet the needs of these strenuous times.

Let the slogan of the individual and the organization be:

"Our grand business is,
Not to see what lies dimly at a distance,
But to do what lies clearly at hand."

The Women's Institute Division of the Agricultural Department will be glad to furnish further particulars. Communicate with

HAZEL E. WINTER,
Supervisor Women's Institutes,
FREDERICTON,

The Crisis!

Untold sacrifices are being made in defence of the world's liberty, assailed by the Hun, who declares he fights for "existence." Let us not forget that other crisis in which the fate of the dread Liquor Traffic, subdued just now by the necessities of war, is also fighting for existence.

Prohibition must be impregnably fortified ***now*** by means of proper enforcement in readiness for the struggle to come when Prohibition must be finally ratified or lost by the votes of the people in many provinces, including New Brunswick.

Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia and New Brunswick have adopted Prohibition during the war. Prince Edward Island has enjoyed its benefits since 1901. The great majority of districts in Quebec are "dry." That is the situation to-day, but remember, the crisis comes after the war.

SIR VICTOR HORSELEY AND HEREDITY

"That alcohol affects disastrously the minds and bodies of innocent, unborn children must be the undoubted conclusion of those who weigh the Evidence."

The total value of foodstuffs destroyed by the liquor traffic in 1916 was approximately $4,244,090.22. Add to this the immense waste of transportation facilities, clogged and hindered by carrying the grain to destruction, and again conveying the product of the breweries and distilleries to make precious men less efficient in this solemn hour!

Ontario's Splendid Record

Since September 16, 1916, Ontario has enjoyed good enforcement of Prohibition in all but a few districts. Not the most daring anti-prohibitionist hopes for a return of the curse of the traffic in Ontario. Here are some figures showing results in Ontario's largest cities for the last three months of 1915 and 1916:

ARRESTS FOR DRUNKENNESS

	Under License 1915	Under Prohibition 1916
Toronto	2,908	953
Ottawa	286	234
Hamilton	498	61
London	367	144
Brantford	152	16

Note.—"It will be noted that Ottawa has not much reduction in arrests for drunkenness. It is perhaps strange that it should show any reduction in the drunkenness record, inasmuch as it is separated only by the river from the license city of Hull."—PIONEER, Toronto.

Whether your district be under the new Provincial Prohibitory Law, or under the Canada Temperance Act, help us to arouse the full force of public opinion for vigilant enforcement of province-wide Prohibition.

Dominion Temperance Alliance

NEW BRUNSWICK BRANCH

DONALD FRASER, President, Plaster Rock, N.B.
REV. THOS. MARSHALL, Vice-President, Fredericton, N.B.
W. G. CLARK, Treasurer, Fredericton, N.B.
REV. H. C. ARCHER, Executive Secretary, Fredericton, N.B.

20

THE VALUE OF A TRUE FRIEND

Is there anything more valuable, anything that tends to bring out the joy, the true happiness of living, that eases the drudgery of the everyday task, more than friendship? Is there anything that can be cultivated more easily and that will give greater returns for the time and trouble expended?

One who is rich in worldly good, yet lacking in loyal, helpful friendships, is to be pitied indeed. The faith of a true friend is a great stimulus for honest, earnest endeavor. It spurs us on and encourages us to do our best. What failures and disappointments would be met with but for the helpful influence, the encouragement, the well wishes of our best friends! How many of us would give up, despair, lie down and quit but for the stimulating and ennobling qualities of some true friend! How many of us that are misunderstood, are censured,

slandered and become impressed with the notion that things are not worth while, that the endeavor for right living is in vain, when a few words from a true, loyal friend briugs about a complete transformation!

There are in life so many influences that tend to destroy, to wreck out self-confidence, our power of accomplishment, that but for the stimulating effect and encouragement from those near and dear to us, who have our welfare at heart, we would never feel equal to the task, our ambitions would be stifled and killed. Many a youth has within himself dormant, latent etrength and inspiration which would, perhaps, never be brought to life but for the helpful influence, the confidence and encouragement of his best friends. Latent power is often not recognized until brought to light by others.

While the aim of true friendship is helpfulness to others, yet the matter can be overdone, although many are prone to overlook thiJ. The truest and most beneficial help one can get from others is that which makes one stronger and better, and not the material things. The gifts of friendship, sympathy, courage and hope are the divinest of all. It should not be our desire and wish to have our burden lightened, but fresh strength and encouragement to bear the burden and have it delegated for a useful purpose. It is the true friend who helps us to better things and to make us understand ourselves. True friendship is not that which encourages or indulges weakness, but rather that which stimulates it into the power to do, to accomplish. Isn't it a fact that some have the mistaken notion that they are exercising the office of friendship by excessive expressions of sympathy, encouraging or exaggerating the thoughts of illness, when, instead of offering such words and deeds that would help strengthen and cheer, they produce a disheartening, depressing and enervating influence?

The thrill of encouragement that has come from a friendly source has been the turning point in many a life. How many of us would have given up in the struggle for success but for the helpful influence of those who have the utmost confidence in us?

Adversity can be said to be an infallible test of true friendship. Superficial friendship, the result of a possession of an abundance of this world's goods, of good fellowship, is not what we should desire. When misfortunes overtake us, there is that power, that encouragement in the tender sympathy of a friend that the darkness of despair and desolation will give way readily to sunshine of hope and cheer. While great friendship is often resultant upon admiration, yet generosity, cordiality and unselfishness are qualities which attract friendship of others, and true friendship is based upon this.

A real, true friend has that faculty of awakening in one, the realization of his power of accomplishment. Frankness, sincerity and justness, and not pretense and deception, are the basis of true friendship.

HOW TO DISTINGUISH LINEN FROM COTTON

Linen is hard to distinguish from cotton especially when the cotton is mercerized or the material heavily starched and well finished.

If the threads are carefully examined it will be found that the cotton thread is the more exact in twist, becomes fuzzy when rubbed between the fingers and when quickly broken the tufted ends usually curl up.

The linen fibres are long and when spun into thread are strong, smooth and lustrous. These threads are rather irregular in appearance and break with the straight uneven ends.

When burned, the ends of cotton thread spread out like a paint brush, while linen threads are even and compact.

A drop of glycerine on linen causes it to become more transparent but does not affect cotton in the same way.

When torn the linen gives shrill noise, the cotton has a duller sound.

There are several chemical tests for distinguishing between linen and cotton but these are not practical for the average house wife, and are not always sure. The microscopic test is the only one which is absolutely certain in all cases.

Real Daylight Saving

In the harvest time every hour between daylight and dark is worth money to the busy farmer.

You get an early start in the morning intending to do a big day's work, but the binder, mower or other implement breaks down and you must go to town for the repairs. If you have a Ford you are soon away and its speed clips two hours off the former three-hour journey there and back.

Count up the extra half days that a Ford will save you

during the rush of seeding, haying and harvest. You will find that the Ford will save you a week or more of valuable time on your necessary trips alone.

Many times you will want to take some produce along with you. Then your staunch Ford is ready to carry a load of 1000 pounds. How handy this would be?

Once you own a Ford and find out the many ways you can use it for business and pleasure you will wonder how you managed without it.

The Ford is an economical investment, and a necessity on every farm.

Ford

Touring - - $495
Runabout - $475
F.O.B. FORD, ONT.

Ford Motor Company of Canada, Limited
FORD - - - ONTARIO.

42

IRON POTS

are made here in various sizes.

Our smallest holds one quart and the largest holds 60 gallons.

We also make Iron Tea-Kettles, Bean-Jars, Griddles, Frying-Pans, Pig-Troughs, Oat-Boxes, etc.

Correspondence and inspection invited.

THE SMITH FOUNDRY CO., Ltd., Fredericton, N. B.

CONSTIPATION

THE COMMONEST ILL.

Constipation is one of the commonest ills of mankind and one too often allowed to go unlooked after until some serious complication sets in.

If the bowels are properly looked after there will be no constipation, jaundice, sick or bilious headaches, heartburn, coated tongue, sour stomach, floating specks before the eyes, etc.

Milburn's Laxa-Liver Pills will keep the bowels regular and cure all liver ills.

Mr. Philip McLeod, Tarbot, N.S., writes: "I suffered from constipation ever since I can remember, and for years had pains in the left side of the back. If I walked across the kitchen floor I would have to sit down and rest. That I think was terrible for a man of 20 years of age. The condition of my system was shown by pimples breaking out on my face. I suffered so much pain and stiffness in my back I am sure my system was full of poison. Milburn's Laxa-Liver Pills have entirely cured me.

I thoroughly recommend them to everybody."

Milburn's Laxa-Liver Pills are 25c. a vial, 5 vials $1.00, at all dealers or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

QUEEN'S UNIVERSITY

KINGSTON ONTARIO

ARTS

MEDICINE EDUCATION

APPLIED SCIENCE

Mining, Chemical, Civil, Mechanical and Electrical Engineering.

HOME STUDY

Arts Ccurse by correspondence. Degree with one year's attendance.

Summer School July and August — Navigation School December to April

15 GEO. Y. CHOWN, Registrar

A New Shoe Idea for summer outdoor work

Write for Catalogue

For Farmers, Woodmen, Millmen, Trackmen, Laborers—all who work outdoors.

Palmer's "Moose Head" Brand

Summer Packs

Made of our famous Oil-Tanned Skowhegan waterproof leather; they have waterproof sole-leather outsoles and solid insoles. The soles, too, are attached by an improved clincher fastener process. They are staunch, light-weight working shoes for spring, summer and fall. Your dealer will likely have them; if not, write us, giving his name and address.

John Palmer Company, Limited,
Fredericton, N.B., Canada 29

500 Acres $5 an Acre For Cattle or Sheep

200 acres machine-worked fields, brook-watered pasture for 500 sheep; wool is high, lambs worth $10 each; woodlot estimated to cut 5000 cords besides timber, variety of fruit; fortune awaits new owner here; good 9-room house, large barn, piggery and poultry house; aged owned forced to sell includes complete outfit of farm tools and machinery; prices for all only $2500 or $5 per acre, part cash, easy terms. For travelling instructions to see this and a splendid farm of 62 acres for only $1200, see page 10, "Our Big Spring Catalogue," filled with bargains everywhere, copy mailed free.—E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston, Mass.

PROVINCIAL EXHIBITION, HALIFAX, SEPT. 12th TO 20th

The Provincial Exhibition at Halifax will be held this year as usual, and the dates fixed are September 12th to 20th.

The Prize List is well under way, and will be ready for mailing about June 1st. No change has been made in the classes, but extra prizes have been added in the Standard Bred, Roadster, Carriage and Clydesdale horse classes, all Pure Bred Cattle classes and in Sheep and Swine classes, which will give the stockman and farmer the largest prize list ever offered in the Maritime Provinces.

This was to have been the year for the Dominion Grant, but on account of war conditions, the Commission did not feel like insisting that the Government give this Grant for this year, but have the promise that Nova Scotia will receive the Grant in 1918 or at the close of the war.

The buildings having been used by the British Remount Commission during the winter for the housing of horses for overseas shipment, will be put in shape at once for the Fall Fair.

Entries close in all departments on September 1st.

The following early closing events in the Speed Classes are:

All $400 Purses.

2 Year Old Trot.
3 Year Old Trot
2.40 Trot (Maritime Bred)
2.40 Pace
2.24 Trot
2.24 Pace
2.19 Trot
2.19 Pace

Entries close June 16th. Horses eligible May 22nd.

HARDY PLUMS

There are great areas in Canada where the European plums, such as Lombard and many others, do not succeed, either the fruit buds or the trees being injured or killed by winter. There are two species of wild plum, however, in Canada, the cultivated varieties of which enable one to grow this fine fruit in very cold regions. In Eastern Canada the common wild species is the Canada plum, **Prunus nigra**, while in Manitoba the common native species is the American plum, **Prunus americana**. It is surprising that trees of these plums are not planted by everyone having a garden when there is room enough to have a few trees, as they bear young and bear abundantly, and the fruit of the best cultivated varieties, while not as good as the best of the European sorts, is excellent when eaten raw and make very good jam when properly cooked.

At the Experimental Farm, Ottawa, over 100 varieties of these plums have been tested during the past twenty-eight years. The outstanding or most widely useful variety of the Canada plum has been found to be the Cheney, a red variety of fairly good quality which cooks well. The Assiniboine, a new variety, is very promising. On account of its earliness, the Cheney is particularly useful in the prairie provinces where many of the varieties are too late to ripen. Few of the American sorts usually offered for sale are sufficiently early for the prairies, most of them having been originated in the states of Minnesota and Iowa, where earliness is not so important. Seedlings of the native Manitoba sorts are now being grown at the Experimental Farms on the prairies to obtain other and better ones. The Major Plum, which has been brought to notice by the Brandon Farm, is a very early sort.

At Ottawa, where the season is long enough for most of the American varieties, the Brackett, Terry and Admiral Schley have proved to be three of the best. Other sorts more generally known are De Soto, Wolk, and Hawkeye. The wood of the American plums being brittle does not stand the heavy snow in Eastern Canada very well, the result being that the trees are often badly broken unless they are headed back each year to make them stocky. The Canada plum, however, makes a very strong tree, hence the Cheney is additionally valuable on this account. The earliests varieties of the Canada and American plums are ready for market before the European ones, hence it has been found at Ottawa that the prices obtained for them are nearly always quite remunerative, and the profits probably greater than from plums in the best plum districts.

Another hardy plum is the Omaha which experiments at Ottawa have shown to be one of the best for that part of Canada, and, it is believed, for districts having a somewhat similar climate. This is a hybrid between the Japanese plum and the American, and has combined in it the good points of both, being, like the American, hardier than the Japanese, but having the thin skin asd firm flesh of the latter. The Omaha ripens about the middle of August, a time when there is usually a good market for plums.

It is desirable to have more than one variety of these hardy plums if the best success is to be obtained as they are more or less self-sterile and each variety requires another near it blooming at the same time to ensure a good crop for both.

Wild plums in some parts of Canada do not usually develop well owing to

This is the Economical Paint to Use

CERTAIN inherent qualities are essential in paint to ensure your permanent satisfaction with its application.

Of these, the more important are Endurance and Covering Capacity. The extent to which these qualities are present, accurately determines the real value of your paint.

B-H "ENGLISH" PAINT 70% Pure White Lead / 30% Pure White Zinc / 100% Pure Paint

made in over fifty artistic shades, combines these virtues in such a manner as to produce a result no other paint can excel, and few can equal.

It is economical because it will cover more surface and wear longer than other paints. A cheap paint does not permit of the use of the best ingredients, and always is expensive in the long run.

B-H "English" Paint—costing but little more than a cheap mixture—produces a better job that lasts three to four times as long.

Other B-H. Products

FRESCO-TONE—For wall and ceiling decoration.
CHINA-LAC—For staining furniture, woodwork, bric-a-brac, etc.
B-H. FLOOR LUSTRE—An enamel floor paint.
B-H. ENGLISH ENAMEL—A high quality product for interior decoration.
ANCHOR SHINGLE STAIN—A durable stain that will not fade. Comes in twelve colours.

This China-Lac Booklet sent to you FREE

It tells in an interesting manner the many uses to which you can put "China-Lac" Varnish stain. Explains how to use this wonderful home beautifier for best results. Shows conclusively that a small investment in a tin of China-Lac and a varnish brush will repay you many times over in the like-new effect it gives to furniture, floors, woodwork. Also made in gold and aluminum for radiators.

For Sale at all the better Hardware and General Stores throughout Canada

BRANDRAM-HENDERSON

Everjet Elastic Paint

An Ideal Farm Paint

Around the farm or home, wherever you have surfaces exposed to wind, wear and weather, you can save money and the trouble of renewing things, by using Everjet Elastic Paint.

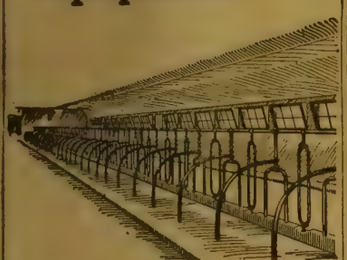
Carbon paints are the most durable of all and Everjet is the best carbon paint ever made. It is the ideal roof paint. Stops deterioration and leaks; adds a good many years to the life of a roof.

Wonderful on metal surfaces because it is elastic and will not peel or crack under temperature changes. It will keep your implements fit. Try some. You will never be without it.

Carritte-Paterson Mfg. Co., Limited
Halifax, N.S. St. John, N.B. Sydney, N.S.

LOUDEN

Sanitary Steel Stable Equipment



What it means to You

MODERN, Sanitary Stables at a reasonable outlay of time and money.

Convenience in looking after your cows, and a saving of time and labor in tying, feeding and cleaning them.

Increased milk production, no waste feed, and increased profits.

What it means to your Cows

COMFORT, cleanliness and almost as much freedom as when in pasture.

More sunlight and fresh air, the great germ destroyers.

Our catalogue is FREE. Write for it to-day. It tells all about the complete LOUDEN line.

Ask for our New Book of Barn Plans. It's free.

LOUDEN MACHINERY CO. OF CANADA, LTD.
Dept. 889 GUELPH, Ont. 8

Butter Parchment at Farmer Office

disease, but it has been found at the Experimental Farm at Ottawa that thorough spraying every year will usually ensure good fruit.

THE BROOD MARE AND HER FOAL

(Continued from page 471)

day's work into three short periods, instead of the usual forenoon and afternoon periods. It is positively bad for the young foal to let it be without its mother for a whole half day when it is only three or four days old.

There is always the temptation, under certain conditions, to put the mare into the collar too soon after foaling, but in the long run it does not pay. The holiday of two weeks, or the breaking up of the working day into shorter periods, will enable her to stand the work well and at the same time take good care of the foal.

The colt should be allowed to run with the dam until it is about six months old, and mare fed so that the colt will get plenty of nourishment during that period. The colt should finish off its mother in a full fleshed and fat condition and the training it should get in feeding will keep it from the set back that comes to many colts that are suddenly weaned, and thrown off on their own in the fall.—O. V. J.

SODIUM FLUORIDE KILLS LICE

By a newly tried remedy a poultry flock can be rid of all seven common species of chicken lice in a few days by one application of sodium fluoride. One pound of this white powder as dust, costing 40 or 50 cents through the local drug store, is enough to treat 100 fowls. If dissolved in water and used as a dip, the same amount will go three times as far. The finely powdered commercial form is cheaper and more easily applied by the dusting method than the fine crystallized sodium fluoride.

Holding the fowl by the legs or wings, one pinch of sodium fluoride is applied each to the head, neck, back, breast, below the vent, tail, either thigh and underside of each wing. Sodium fluoride is irritating to the nose and throat and will cause local irritation to the skin. The applicant must guard against it. As a dip, the sodium fluoride is harmless and more easily solved at the rate of three-fourths to one ounce of commercial powder or two-thirds ounce of the chemically pure material to each gallon of water.

TO PROLONG THE LIFE OF FENCE POSTS

,Ct 5w-s ,mmt 0leo a|,,w?e s v, -hrs

Will you please explain to me either through your valuable paper or in a letter the best way to treat fence posts to keep them from decaying. Is creosote a good oil to use, if so should the posts be boiled or how should they be treated?—A. B. in Western Ex

Answer:—The chief requirement of a fence post is durability. The most durable woods which we have in the West here to use for fence posts are cedar and oak.

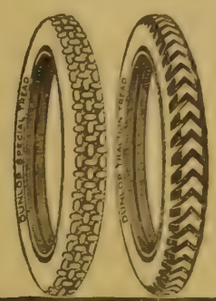
Fence posts of these varieties of wood are expensive, and we have got to fall back on the trees which are more common on the prairie, that is maple, willow, elm, cottonwood, poplar, etc. The wood of these last-named varieties are not at all durable and the life of a fence post made of the last named varieties is very limited and does not exceed three to five years at the most. Fortunately such woods can be made durable at a small expense by preservative treatment, and can be made to last at least three times their ordinary lifetime. The decay in the wood is caused by low forms of animal life called Fungi, which cause the destruction of the tissues of the wood. These plant

DUNLOP TIRES
"Special Tread" - "Traction Tread"

Service Begets Supremacy

Dunlop---"The Automobile Tire you see the most of and hear the most about."

Most Mileage



Most Safety

A. 75

forms live inside the wood, breaking down the fibres and producing what we call decay. Like other forms of plant life, fungi require for their growth and development, moisture, air, heat and food. A fence post decays most quickly at the ground, because there the conditions of air and moisture are most favorable to the growth of the fungi. The decay is much slower in the top of the post because the wood dries quickly out after it has become wet, and very slowly indeed below the surface of the ground, because of the lack of air. If the fungus is deprived of any of these factors of growth it cannot live. Wood that is kept thoroughly dry cannot decay. Wood immersed in water cannot decay because of lack of air. Bog oak is dug up from the swamps of Ireland where it has lain for centuries and made into furniture. Wood decays very slowly in the cold northern regions. Wood that has been poisoned so that fungus is deprived of its food supply will never decay as long as the poison remains in the wood. Any method by which wood can be kept dry, or that will tend to prevent the entrance of the fungus plant, will prolong the life of fence posts. Piling stones, ashes or gravel about the base, or setting the posts in cement, or concrete, will help to drain away the moisture, and prevent the growth of weeds which keep the air from circulating freely around the post. Thoroughly seasoned posts will last much longer than those which are put in green. Good results have been obtained by charring the end of posts over an open fire. The posts must be thoroughly seasoned to prevent splitting or checking, and the charring must extend at least six inches above the surface of the ground where the post is set. Painting the surface of the post, or coating it with some preservative substance, like tar, petroleum, or creosote will help to keep out the moisture, and also prevent the entrance of fungi, although if the posts are green the sap rots the posts underneath the coating of preservative. When posts are painted, or creosoted with a brush care must be taken to see that any cracks or crevices in the post are filled with the solution.

Another plan is to take an old boiler and fill it with creosote and set the boiler over an open fire and taking thoroughly dry posts, put the ends of them into the liquid up to about 40 inches, which will ensure all being treated which will be underground. For soft wood like we have in this country, it is advisable to invert the post so that the whole surface will be treated. The creosote has to be heated up to about 220 degrees F. and after the posts have been in the liquid a couple of hours, the fire is withdrawn and the posts allowed to cool. About twenty posts can be put into a good sized boiler and two runs treated in a day making 40 in all. This can be done without interfering with the ordinary work of the farm.

Before beginning the creosoting operations the posts should have been piled up to thoroughly season for about five or six weeks, the bark and especially the inner skin of bark should all be peeled off and the posts put into the tank so that the process will affect the wood for a few inches above where it is put into the earth, as it is at the surface of the earth that decay usually takes place. Round posts are preferable to split posts, as heartwood, except in the case of cottonwood does not absorb creosote readily. The advantage of a preservative treatment lies in the fact that material for posts can be had from the wood lot or they can be purchased at a low price and even with the extra cost of creosoting will not amount to much more than the original cost of cedar posts. Besides, a well creosoted post will last for 20 years.

If one wishes to be sure she is buying linen, it is well to remember that one seldom gets linen when paying cotton prices.

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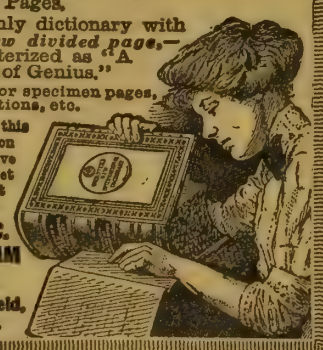

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CHOPPED ALFALFA VS. BRAN FOR DAIRY COWS

(Continued from page 467)

of fifteen days the cows in Lot A were fed the alfalfa mixture, and the cows in Lot B the bran mixture for fifteen days. Then the cows in Lot A were given the bran mixture and the cows in Lot B the alfalfa mixture for fifteen days. For another fifteen days the cows in Lot A were given the alfalfa mixture and those in Lot B the bran mixture. During two of the four fifteen-day periods each lot of cows was fed a grain mixture of 4 parts of corn, 2 parts of bran and 1 part of oilmeal, and during the other two periods each lot was fed a grain mixture of 4 parts of corn, 2 parts of chopped alfalfa, and 1 part of oilmeal. At all times there were six cows on one ration and six on the other.

The amount of grain fed to a cow was based on her milk production, but the two cows in each pair were fed the same amount of grain. The cows were fed 30 pounds of silage each, daily, and all the alfalfa hay they cared for, which is estimated at 20 pounds per head daily. During the third period one cow in Lot A, being fed the bran mixture, went off feed for a few days, and during the fourth period another cow in Lot A, being fed the alfalfa mixture, dropped in production for a few days. As one cow was off when on bran and the other when on alfalfa, these deficiencies do not influence the final results.

The six cows in Lot A while on the bran mixture during two fifteen-day periods gave 3,972 pounds of milk containing 143.3 pounds of butterfat, and lost 32 pounds in weight. The same six cows while on the alfalfa mixture during two fifteen-day periods gave 4,052 pounds of milk containing 138.7 pounds of butterfat, and gained 223 pounds in weight. The six cows of Lot B while on the bran mixture during two fifteen-day periods gave 4,244 pounds of milk containing 158.4 pounds of butterfat and gained 254 pounds in weight. This same group of cows while on the alfalfa mixture during two fifteen-day periods gave 4,332 pounds of milk containing 163.6 pounds of butterfat, and gained 1 pound in weight. Bringing together the results from both groups we find that the twelve cows while eating the bran mixture during two fifteen-day periods produced 8,216.5 pounds of milk containing 302.7 pounds of butterfat, and gained 222 pounds in weight. The same twelve cows while on the alfalfa mixture during similar periods produced 8,384.5 pounds of milk containing 302.3 pounds of butterfat, and gained 224 pounds in weight.

During this test with twelve cows for a period of two months chopped alfalfa was substituted for bran in the standard dairy ration of 4 parts of ground corn, 2 parts of bran and 1 part of oilmeal, with no appreciable effects, either favorable or unfavorable. If these results are the same as will be found in general practice, then alfalfa fed in this manner has the same feeding value as bran. Since the same amount of butterfat and practically the same amount of milk was produced from the ration containing chopped alfalfa as from the ration containing bran, the difference in the cost of production is only the difference in the cost of the alfalfa and the bran. Valuing a good quality of chopped alfalfa at $12 per ton and bran at $30, the saving in cost of feed, due to substituting chopped alfalfa for bran, amounted to 13.6 cents per 100 pounds of milk, or 11 percent of the cost of the feed eaten by the cows in producing this milk. The test was suggested and the details performed by our efficient herdsman A. R. Sharrah.

W. P. Snyder.
University of Nebraska Substation.

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Extremely Severe

Dyspepsia

Halifax (N.S.) Sergeant in the C.E.F. Cured Completely by Dr. Cassell's Tablets.

SERGEANT DUNCAN MacNEIL, of the CANADIAN EXPEDITIONARY FORCE, writing from Europe (his home address is 116, PLEASANT STREET, HALIFAX, N.S.) says:—

"For six years I suffered from frequent attacks of Dyspepsia, each attack being more acute than the last. During one of these attacks life would become almost unbearable, and I would have to regulate my diet to liquid foods only, often being in bed for days at a time. I was under the care of a Physician, and tried all the remedies on the market, spending a small fortune, but obtained little or no relief. I became utterly discouraged, and had almost given up all hope of Cure.

Sgt. MacNeil.

"When the war broke out I joined the Expeditionary Force and came to England. I had not been long there, however, when my old trouble returned, and I had to go to hospital. While in hospital a friend told me of Dr. Cassell's Tablets, and I decided to try them. The first box brought such pronounced relief that I continued the treatment. To make a long story short, a complete cure was effected.

"Since taking Dr. Cassell's Tablets I have been through hardships almost beyond human endurance, but not once has my old trouble returned to bother me."

The above is the frank, clear testimony of a Canadian soldier. He has been cured of extremely severe dyspepsia, which even the healthful life of the training ground could not overcome, and he wishes to tell others that he owes that cure to Dr. Cassell's Tablets.

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offers for sale one pure bred Holstein Bull Calf, 2 months old, whose grand sire was three times grand champion at Toronto and his dam has made over 12,000 lbs. milk in 10 months and tested 31-2 fat. He is well marked and right in every way. Price $40.00 if taken at once. We also have pure bred Berkshire Pigs for sale.

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From Brahmas Light, Brahmas Dark, Cochins, Patridge, Silver Grey Dorkings, Houdans, S. C. Buff Leghorns, S. C. Black Leghorns.

We won on the above varieties at the Maritime Winter Fair, which was held at Moncton, and at the shows at Fredericton and Halifax. We won 60 firsts, 36 seconds and 10 thirds. All these winners are in our breeding pens of which we have a limited number of eggs for $3.00 per 15 or $5.00 per 30. We also guarantee eight live chicks from each setting and if not we will replace all unfertile eggs free of charge.

DAY BROS.,

129 West Lane, Moncton, N. B.

EGGS ALL THE YEAR ROUND

Not a day without eggs in the last four years. This is the record of our bred-to-lay Barred Rocks, Rhode Island Reds and White Wyandottes. Try a setting, one dollar each. Am now booking orders for Chester White pigs. Also offering a few good Holsteins.

Day old chicks, above varieties, 20 cents each during April, 15 cents each after April.

N. W. EVELEIGH,

"The Orchard" Sussex, N. B.

Lawndale Stock Farm

Jerseys and Shorthorns

At present we have no offering in Jerseys, having sold short, but probably will in the late fall. Write to us early.

In Shorthorns We Offer:

One Red Bull Calf, dropped Oct. 17th, 1916. Very large and handsome. Sired by a champion of his class at Halifax, 1915, out of a heavy milking dam.

One Red Bull Calf, dropped March 17th, 1917. Same sire as above and out of another good milking dam.

Both these calves are in show condition. Write for information.

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GUERNSEY BULLS!

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

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Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding The Farmers Most Profitable Cow should be sent to the Secretary of the Association

W. A. CLEMONS, St. George, Ont.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Mercedes," No. 11727, the sire of our 26.54 lb. Jr. 3 year old and who so far has not a tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particulars write

R. L. HICKS

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Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

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From two grand pens of S. C. R. I. Reds and one pen of Rose Comb R. I. Reds. Price $3.00 per 15 eggs.

Write for particulars to

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Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,

Phone 111. - - - - Sussex, N. B.

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Shorthorn Cattle and Shropshire Sheep

Our Shorthorns have wintered well and we have a fine bunch of Calves for sale at any age required. Are booking orders for Rams for fall delivery. Our Lambs weighed from 100 to 115 lbs. last October and the present crop have come strong and extra good type

C. A. ARCHIBALD, - Clifton, N. S.

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We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Foforit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

For sale at present, one bull 20 months old; two bulls 10 months old, almost fit for service. Several bull calves that are dandies and as well bred as you could wish. Also can spare a few heifer calves from one to six months old. Inspection invited.

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM

R. O. M. HOLSTEINS

Present offering:—Bull Calf, month old. Weighed 112 lbs. at birth. Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seven days. This calf is a splendid individual and fit to head any herd when mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM

Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

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Send for FREE Catalogue; with descriptions and prices of over 1000 farms in Nova Scotia.

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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

FOR SALE

One dozen Bronze turkey eggs, $4.00. Best Buttercup eggs, $2.00 setting fifteen. Blue Orpingtons, $3.00 fifteen. Pair of fine Grey African geese, ready to lay, $12 (twelve dollars).

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Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS

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Two pure bred Clydesdale Stallions, 7 and 2 years old. Shorthorn Bull, 5 years old, imported from Ontario. Write us for full particulars.

MORRIS SCOVIL & SONS,

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Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,

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HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast meat. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order.

W. J. M. MacLEOD, Sussex, N. B.

ELMHURST FARM

Booking orders for spring delivery of Berkshire pigs.

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor

Oxford Junction, N. S.

HISTORY OF THE POTATO

In telling the story of the vegetables which we eat so regularly, we seldom question whence they came or how they were introduced. The potato is the first to be considered. It is the one vegetable seen everywhere, the universal accompaniment to meat, and often its substitute.

It is so well known that it may seem foolish to consider what it is, yet if the general knowledge were questioned, it might prove rather vague. Some people might pronounce the potato a root. In ordinary speech, it is mentioned among root crops—but in reality it is not any more than the asparagus is. The one is a stem with undeveloped leaves, forcing itself through the ground; the other is a stem, growing under ground. It is not commonly recognized as a stem, on account of its thickened or tuberous form. If a potato plant be pulled up, the true roots can easily be distinguished from the under-ground stem with the tips swelling into young potatoes.

Scientists tell us that we are not very largely gainers for the appropriation of the potato, for while it furnishes an acceptable food, it does not supply a large amount of nutrition. The potato, therefore, does not stand at the head of the list of vegetables in value, although it does in popularity. The potato comes of a very bad family, indeed—many of whose members are real reprobates.

It has a few relatives of good character, such as the tomato, the artichoke, the winter cherry and the egg plant, yet the whole Solanum family is regarded with suspicion.

In 1886, the ter-centenary of the potato was celebrated in England, with very interesting exercises. Credit is generally given to Sir Walter Raleigh for bringing it to England. In July, 1586, he brought the potato from Virginia, having got them from the colonists whom he had placed there in 1584. For the next century and a half, they were planted in gardens only. The potato was one of the gifts from the New World to the Old. It is a native of Chili and Peru, where the Spaniards found it under cultivation. They introduced it into Spain, from whence it was taken to Italy and then to Belgium, some years before it was known in England.

The story of its introduction into France is too interesting to be omitted. "In 1769, there was a terrible famine in that country. The grain crop was ruined, and the poor were reduced to the verge of starvation. The sight of men disputing with the beasts for the scanty harvest of the fields, and even eating grass, moved a benevolent chemist, named Dr. Parmentier, to search for some means of help. He recalled that during his imprisonment in Prussia as a military captain, the government had issued rations of a vegetable generally supposed to be fit only to be fed to cattle.

"The doctor had found the food not unpalatable, and had made entry in his notebook regarding the possibility of its use for human food in time of scarcity. Such a time had come, and the chemist prepared a pamphlet on 'Certain Vegetables That in Time of Necessity Can be Substituted for Ordinary Food.' The treatise found favor with the minister of agriculture, and there was granted by order of Louis XVI a tract of waste land near Paris to the 'tubercle man,' for the cultivation of his new plant.

"Nothing but scornful amusement greeted him at first, but the doctor understood human nature. When, on Aug. 21, the king's fete day arrived, 'the tubercle man' wended his way to Versailles with a basket of the tubers in one hand and a boquet of the flowers in the other. He presented the flowers to the king, who pronounced them superb, and placed one in his buttonhole, giving the rest to the queen, who twined them in her hair. The tubers were boiled for the royal table, and Louis XVI ate his first potato.

"The potato blossom became at once the vogue, and courtiers view with each other in their efforts to obtain some of the rare flowers; $45 was the price paid by one of them for a cluster.

"Dr. Parmentier saw, however, that he was not reaching the end he had in view, that of introducing a new vegetable to the poor. He therefore had a guard set around the potato patch, and various reports circulated to arouse curiosity. Certain of the guard had secret orders to stray away from their posts during the night, and the doctor's stratagem was rewarded by the disappearance of quantities of his new vegetable. By degrees the prejudice against it was overcome, and Dr. Parmentier attained his benevolent purpose of supplying the poor with a food that could be obtained cheaply and abundantly."

In Scotland they were not cultivated as a field crop until 1732, and they have gradually made way to the position they now occupy.

The Irish potato is grown to some extent in every state in the Union, but it plays an important part in farming in the northern states only. The leading potato-growing states of the country—those where the potato is at home, and where it forms an important crop—are the two northern tiers of states east of the 100th meridian. Besides this, there are several states growing large quantities of potatoes but not comparable with the district mentioned. There are 10 leading potato-growing states. New York ranks first, Maine second. The average yield in Maine is considerably more than for any of the other states which are nearly twice as large.

Aroostook county is the largest potato-growing county in the United States, its average yield being 275 bushels (100 barrels) per acre.—Maine Farmer.

FAT IS NOT MUSCLE

An 1,800-pound horse undoubtedly can do more work than one weighing 1,400 pounds, but if the big one comes down to 1,600 the little one will likely beat him. If both fall off an equal number of pounds from their best working weight the one least affected would be relatively best after the reduction. If 200 pounds above his working weight are added to the 1,400-pound horse that will not bring him in efficiency within 200 pounds of the 1,800-pound horse; it will rather decrease his efficiency to the point where it cuts his wind and softens his muscles. The same thing will occur with the 1,800-pound horse if he weighs a ton in soft, spring condition. A horse, no more than a man, can do his best if he is much over or under weight. One over-fat or under-fed horse in a team will weaken the team, unless the poor brute is put through regardless of his condition. If the team is worked anywhere near to capacity, any but a very hard horse will be injured. If he is held down to the capacity of the weak horse, it means loss.

As a rule in spring the team will be too fat. One must not expect such horses to do the work of conditioned ones, but should resign himself to conditioning them in the field, taking the necessary time. Otherwise they will be more or less injured from neglect to condition them previously. Big horses must be kept up to their optimum working weight. Little horses cannot be made to take the big ones' places with any more success than the frog simulated the ox by filling himself with wind. It takes just so many pounds of muscle to accomplish a task. Fat may look like muscle but it will not work like it. Neither can a big horse that has lost a couple of hundred pounds of muscle from his working equipment deliver the work that a horse of the weight to which he has been reduced can easily do day in and day out because be is in the right condition.—L. Ogilvy.

CATARACT AND BLINDNESS IN HORSE

I have a horse, nearly blind, the ball of the eye being covered with a white opaque substance. I see nitrate of silver recommended for cases like this. How is it applied? I do not know how long the eye has been this way now how it has been caused. W. S.

The symptoms you describe point to cataract, which is the common termination of all inflammatory diseases of the eye. In recent cases, the eye may be cleared up by giving a purgative, consisting of six drachms barbadoes aloes, 1 tablespoonful ginger, 1 tablespoonful of gentian and 1 pound syrup, mixed and given as a drench. Then apply nitrate of silver, 10 grains, to one ounce of water. Apply by squirting the mixture into the eye with a small syringe. But if it is a case of long standing, there is not much chance of it getting better. This disease can only be successfully prevented by applying remedies whenever it is first noticed.

Some Compromise

A little colored girl, a newcomer in Sunday school, gave her name to the teacher at "Fertilizer Johnson." Later the teacher asked the child's mother if that was right.

"Yes, ma'am, dat's her name," said the fond parent. "You see, she was named fer me and her father. Her father's name am Ferdinand and my name is Liza. So we named her Fertilizer."—Boston Transcript.

No longer a dream!

You can take off a bumper hay crop without an hour's delay and with the least work by using a

Frost & Wood Mower & Rake

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CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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Soil Fertility--Its Economic Maintenance and Increase

By Frank T. Shutt, M.A., D.S.C. Dominion Chemist

We are again called upon to take part in an educational campaign, with the view of increasing the output of our agricultural products. It is in this most practical way, the larger production of foodstuffs, that many a Canadian farmer can, in these troublous times, very materially assist the Empire. It is thus that he can "do his bit" and "serve his King and country."

INCREASED PRODUCTION.

In this campaign we are not so anxious to urge upon our farmers an increase in the acreage or area to be put under crop as to obtain a larger yield from the acreage at present under crop. We think that those who are engaged in this campaign should have that point well in view, and we might say with regard to that phase of the question there is plety of scope for improvement in Canada. We realize, speaking generally, that our crop yields are very much below what is possible, probably in many cases below what is profitable: not merely below the maximum, but below a decent average. There is plenty of margin for improvement in that regard, and I think our energies, at the present time, should be more particularly bent in the direction of urging our farmers to bring up the average of the yield rather than to extend the acreage to be put under crop, although there are places where both may be necessary and desirable.

We have been terribly wasteful of plant food, especially in the Northwest, where farming has been likened to mining, and it is by sounding a note of warning for the future that we should endeavour to get our farmers to maintain and increase the fertility of our soils, and by better, more rational methods, to put a stop to that waste. This warning is necessary in Ontario and Eastern Canada. We must not blame the farmers too much for using methods, if such they can be called, that have impoverished their soil. We have now, however, arrived at that stage where we can change from the extensive to intensive farming. And we must change. It is going to be easier, more profitable, for the farmer to get 60 bushels from one acre than it will be for him to get 30 bushels per acre from two acres; of course this is a very rough and ready illustration, but it will convey the idea I wish to bring forward, viz., that on many farms there will be more profit coming to the farmer from the extra increase in his yield than by putting more land under tillage. Consequently in this present campaign we must place a great deal of emphasis upon this matter of increasing the soil's fertility. We must not tell farmers that the yields are absolutely, entirely and exclusively dependent upon the plant food in the soil, or even upon the available plant food in the soil; there are other factors, the moisture in the soil, the temperature and a number of other conditions which go to make the crop a success or failure. Nevertheless, the amount of plant food in the soil which is available is a prime factor in determining the yield. That is the question to emphasize, we urge our farmers as a fundamental proposition to increase the plant food in the soil by every legitimate, economic means, and we will now discuss some of our teachings in that diretion. Thorough tillage, the growing of legumes, more manure and its care and proper application; these are the means at our command.

FARMYARD MANURES.

All our work has emphasized the value of farmyard manures as the most effective fertilizer that we can apply. The explanation, we think, is readily found. We make this statement that manure has a greater productive value than can be attributed to it from the plant food that it contains, than is indicated by its percentages of nitrogen, phosphoric acid and potash. Commercial fertilizers are bought, or ought to be bought, on the basis of potash, nitrogen and phosphoric acid that they contain. If we know the percentages of these in the fertilizer, and their availability, and we know the market price of these materials, we can calculate the exact value of the particular brand and say it is worth $25 or $35 a ton. We may take a sample of the manure and analyze it. We ascertain the percentages that are present of these various plant foods, and from them we calculate that at the present time such a sample of barnyard manure should be worth, say, $2.50 a ton. Then this manure has a greater value than can be attributed to it from the amount of its plant food content, that is, over and above $2.50 per ton.

MANURE A SOURCE OF HUMUS.

The explanation is that manure furnishes humus-forming material. It is not necessary, perhaps, to go into any lengthy definition of humus. Humus, for our purposes, is simply semi-decomposed organic matter, and it is probably the most valuable of all our soil constituents.

HUMUS A SOURCE OF NITROGEN.

We find that all our virgin soils of extraordinary richness and fertility are well supplied with this vegetable matter, this humus-forming material, and soils exhausted by cropping and irrational system of farming have had this material dissipated, destroyed. Moreover, humus is important because it is the storehouse of nitrogen. Nitrogen is an important element of plant food, not merely because it is essential to the life of the plant, but because it is a very expensive form of plant life when we have to buy it for fertilizing purposes, something like three times the price of phosphoric acid and potash, weight for weight. When the humus is burned out of the soil by irrational methods of farming the nitrogen goes with it, for this humus is nature's guardian for this important element. We have, therefore, to consider the humus content of the soil as indicating in a very large measure its relative fertility.

PHYSICAL EFFECTS OF HUMUS.

Further, humus has a very remarkable influence upon the mechanical texture of the soil. As we said a moment ago, the fertility of the soil does not depend altogether on the amount and availability of the plant food present; productiveness depends in large measure upon the physical or mechanical condition of a soil. It must offer a very comfortable convenient and suitable, medium for the germination of the seed and for the growth of the young and tender rootlet and the extension of the root system. It must also be well aerated and it must hold moisture. Well, in a word this humus material in the soil has all these functions, the bringing of the soil into a right condition of tilth; humus or semi-decayed organic matter makes a soil a comfortable medium for the growth of crops. We have to house our families and our live stock. It is the same with our crops. It is not merely the plant food that is essential, but we must have the soil comfortable for them to live in or they will not thrive.

BIOLOGICAL EFFECTS OF HUMUS.

Then there is another matter: humus supports the microscopic life of the soil. We understand now from recent researches that the soil is crowded with micro-organisms, bacteria, and these perform a very useful function. Their prime function is to convert unavailable plant food into available forms for crop use. They feed on this humus-forming material, provided the soil is warm, moist and well aerated. The more vegetable matter (humus) we can give them the more they thrive and develop. It follows that the more available plant food we have in the soil the larger will be our crop yields, speaking roughly, other things being equal. So that it is evident there are many useful functions that this humus material has to perform in the soil. Apart from the purely chemical one of plant food, it has a biological function in supporting the life of the soil, and it has the physical function in improving the tilth. These are the reasons why we say that manure has a greater value than might be indicated, by its percentages of plant food, and that is really the fundamental difference between manure and fertilizer. Manure furnishes a large amount of this humus-forming material; and, more than that, it supplies with it the elements for these soil bacteria to live on and to transform into food useful for farm crops.

MANURE ON MUCK SOILS.

Farm manures are teeming with bacterial life, and it is for this reason chiefly, I believe, that we have found it a succesful practice to apply manure to muck soils. Muck is very largely semi-decayed vegetable matter. It looks like carrying coals to Newcastle to put more organic matter on such soil, but nevertheless we do find that even small amounts of barnyard manure are very useful at the outset in reclaiming these muck soils. Why? Partly because the plant food in the muck is not in an available condition, and there is a certain percentage of plant food in manure in an active, readily soluble and available condition. I believe, further, that the value of manure follows from what we may term an inoculation of the soil, the seeding of that soil with germs, with bacteria, and these cause a further breakdown of the components of the soil that will render the plant food of the muck soil available for crops. Consequently we believe there is a strong line of demarcation to be drawn between manures on the one hand and fertilizers on the other; this knowledge will make plain to our farmers why manure is undoubtedly, and must necessarily be, more effective than fertilizers.

FREQUENCY OF APPLYING MANURE.

The next deduction we made from our work was that there is a value in frequency of application. The reason for that is this: There is a natural destruction or dissipation of the organic matter in the soils from oxidation and chemical reactions following the tilling, the cultivaton of the soil, which results in the loss more or less of this organic matter from the manure. We have found, for instance, that when we first till our rich soils in the Northwest, there is for the first five years or so a very heavy destruction of humus material. As we proceed we reach a minimum, or at least a limit, below which the destruction of the humus becomes slower and slower. There is, however, always a loss; good farming methods seek to constantly replenish the soil with humus and plant food. The point is, the richer we have our soils by the addition of manure the larger will be

(Continued on page 495)

How to Can Fruit and Vegetables

The Editor of the Maritime Farmer can vouch for the excellence of the methods set forth in the following article on "How to Can Fruit and Vegetables." Owing to sickness in the family he was obliged to make an attempt at preserving and canning some strawberries and despite the fact that it was his first attempt, by following the principles set forth in the following article he succeeded beyond his fondest hopes. Every jar, about forty all told, opened in perfect condition and good judges of preserves who had the opportunity shall we say the good luck to partake of them were unanimous in their verdict "the best we ever tasted."

The following articles appeared in the New England Homestead. We are pleased to reproduce them in the columns of The Maritime Farmer and trust that many more of our readers will be as successful as we have been in putting into practice the principles involved and so thoroughly explained.

We housewives used to know of only one way of canning things that we wanted to keep—that is, the open-kettle method—cooking the stuff a certain amount of time, then filling it into jars and sealing it air-tight. This method answered pretty well, but very often it failed in certain cases. Every housewife at some time had the experience of having some of her canned goods spoil. Generally she could not account for this. She thought that probably air had got into the jars because of imperfect sealing. That, however, was not necessarily the case. The fact is that some live bacteria might have got into the can while she was transferring the boiling stuff from the kettle to the can—and any amount of care could not prevent that.

Canning by the so-called cold-pack method is not only easier, but is safer and more satisfactory in every way. It is not such hot and unpleasant work Bacteria cannot get into the cans. There is no need to use a lot of sugar or any preserving agents of any kind, and the color and flavor of the product are retained.

The cold-pack method is very simple The utensils required are something in the way of a vessel large and deep enough to hold a certain number of cans or jars so that these can be covered with water and the vessel closely covered to keep in the steam. A wooden rack should be placed in the bottom of this vessel so that the glass jars will not touch the bottom. Then another large kettle is needed for boiling water to "blanch" the product before canning, and another vessel to hold cold water to dip the product right after blanching. Aside from these utensils, only the ordinary tools are required, such as sharp knives, spoons, holders, etc.

The cold-pack method consists simply of this: First, cleaning and preparing the product in the usual way, dipping in the boiling water for a stipulated number of minutes (blanching), then emersing in a cold bath, then packing into jars, adding hot syrup or water, partially sealing, putting in the sterilizing vessel with hot water, and boiling for a stipulated time, then sealing the jars perfectly. That is all there is to it.

Any bacteria that got into the jar while it was being filled was killed while the contents were being sterilized during the cooking in the boiling water bath. We used to be very careful to have our jars full to overflowing before we put on the top, trying to make sure that there would be no air in the cans. This was simply because the air was always more or less full of bacteria of some kind. By the cold-pack method we need not worry about this. If the can were only half full, the contents would keep perfectly, provided sterilization had been completed.

Simple and Easy Work

Now, as to the exact procedure, when canning by the cold-pack method: The time table shown on this page will tell you the required time for blanching and sterilizing. Have all your paraphernalia ready and at hand. After cleaning and preparing the fruit or vegetable in the usual way, put it into a cheesecloth bag (and this bag should be long enough so that the top can be twisted and protrude out of the kettle), and emerse in a kettle of boiling water. Cover the kettle and scald for the exact time called for by the time table. This is called "blanching." Then lift out and dip the bag in cold water. Do not leave the bag in the boiling water any longer than the time called for.

This "blanching" process eliminates objectionable acids and acid flavors, and sets the colors. It is not always necessary to treat all the fruits in this way, except in some cases for ease in peeling, such as peaches for instance. But remember this, that any fruits or vegetables which are blanched, or in other words, scalded in this boiling water bath, must be immediately plunged into cold water. Of course, such vegetables or fruits as are blanched or scalded are by that process cooked a trifle, but most of the fruits are packed fresh without heating, and in no case is the process of cooking complete before the products are put into the jar.

If vegetables do not have enough juice of their own, add boiling water after filling into the jar. It is not necessary to add heavy syrup to the fruits, a light syrup most pleasing to the taste is the best, as too much sweetening disguises the flavor of the fruit.

Have your jars clean and warm, fill with the blanched vegetable or prepared fruit, add hot water or hot syrup, as the case may be; put on a good, new rubber (never use old, hard rubbers), screw down the top slightly, or whatever the method of sealing is. Do not seal completely, as during sterilization steam accumulates in the can and must find some outlet, or the can would be apt to break. For this reason it is best not to fill the can full to overflowing, as we have been in the habit of doing when canning by the open-kettle method. It will do no harm to leave about half an inch of space on top.

Now put in the wooden rack, made of strips of wooden lath criss-cross, to fit in the boiler, or whatever other vessel you are going to use for sterilization; place your filled jars in this and pour into the vessel water of about the same temperature as the jars (to avoid cracking the glass), to within about one inch or so of the tops of the jars. Cover the vessel and note when the water bath begins to boil, and figure your time of cooking from the time when the water begins to boil. You will notice by the time table that different products require different time for cooking—some things needing longer time to sterilize than others. When the sterilizing process is completed, the jars are lifted out of their bath, screwed down or sealed as tightly as possible, and put away somewhere where no draft will get at them, as a cold draft might crack the hot glasses. It is always best to store in a dark, dry place. Light fades the color of the contents.

This is really all there is to the matter of canning by the new cold-pack method. You may can one jar, or a dozen jars at a time, but for the busy housewife, who has the regular routine to manage every day, it is best not to attempt too much at once. A few jars canned every day will make a goodly showing at the end of the season, and she can accomplish this with a minimum of time and labor.

One caution is necessary: Never under any circumstances, after removing the jars from the sterilizing bath, open them to add more syrup or hot water, for that would give bacteria a chance to get in, and all your sterilizing work would be in vain. Remember, the cans do not have to be full, as was necessary with the old-fashioned method, and that the air that was in the cans was sterilized, and so harmless. When the product is put into the jar and the jar closed, and the contents then sterilized, the bacteria which may have been present are killed, and by sealing the jar you prevent any other unsterilized bacteria from getting in.

This cold-pack method really takes the drudgery out of canning, for while the products are sterilizing, you can go about some other business, instead of hanging over a steaming open kettle and stirring and dipping and fussing with full cans, etc. The work that it is necessary to do can all be done when the worker is fresh, not after she is all heated up and tired and nervous. It is just necessary to remember and be accurate about sterilizing the proper length of time. If it is underdone it will not be completely sterilized. If it is overdone, the flavor or texture of the product is more or less unfavorably affected. By the cold-pack method anyone can can food product of any kind. The canning is less work. The work is pleasanter, and it is the only sure way.

Of course, you must not expect anything better to come out of the can than you put into it. In other words, you want to grade your stuff carefully and put in only the best. Remember to have your scalding or blanching bath boiling vigorously, and your cold dip bath really cold. Have all your cans, rubbers and tops read and clean. It is not necessary to sterilize them, as they will be sterilized while the contents are being sterilized. However, the glass cans should be warm when you put the product in them, to avoid danger of breakage, and for the same reason the sterilizing bath should be of about the same temperature as the cans, when you first put the water in. Have it all hot, but not too hot to make it difficult and uncomfortable to handle.

Use good rubbers and see that they lie flat and fit closely up to the jars, then put the covers in place, but do not seal tight. If using screw-top jars, screw the cover down until it catches, then turn about a quarter round back. Or you can screw down the top with thumb and little finger, not using force, but stopping when the cover catches. If you use vacuum-sealed jars, put the cover on and the spring in place. The spring is supposed to give enough to allow the steam to escape. If using glass-top jars with a patent wire snap, put the cover in place, the wire over the top, but leave the clamp up. The reason for all this is that the cover on the glass jar must not be too tight while processing, or sterilizing, because the air and liquid in the jar will expand when heated, and if the cover is not loose enough to allow the steam to escape, the pressure may blow the rubber out, or even break the jar.

After the products are packed in jars it is an advantage to sterilize as quickly as possible, for time lost in bringing the contents to the point of sterilizing softens the products and results in inferior goods. Therefore, it is best to pack in hot jars filled with hot syrup or water, have the sterilizing bath hot when the jars are set in, and bring to a boil quickly. If you will use just ordinary common sense in handling the jars, you ought to have no breakage. Remember, do not begin to count time until the water is boiling. You should be able to secure a hot fire quickly, and keep a fairly even heat.

Do not try to economize on water. You should have plenty of clean water to wash cans and products, to make syrup and brine, and for use in blanching, cold dipping and sterilizing.

As to sterilizing vessels, you can use almost anything you please, so long as it will accomplish the work. You can use a clean wash boiler with a cover, Such a pail is usually heavy enough to hold the heat well, and the cover fits well down over the sides. Lard or coffee cans of a good size can also be used, but being of tin, these do not hold the heat as well as the heavier types. In fact, any large kettle with a cover, that will hold the cans with a wooden rack under them, and that can be properly covered, will serve the purpose.

If you want to do the work outside, it is possible to use a big galvanized wash tub. A board cover can be made to retain the heat. Over a pit dug in the ground, bricked or not, as you choose, put in a smoke pipe, and three or four bricks on which to set the cooker, and keep the fire going briskly

About Commercial Outfits

When it is desired to put up canned goods for sale, glass jars are usually found to be too expensive, unless they can be returned and redeemed. But, of course, this is not always feasible. For this reason, and because they can be better handled, packed and shipped, tin cans are more desirable. Various manufacturers have met this need by offering tin canning outfits in various sizes, for use indoors or outdoors. They range in price from about $7 or $8 to $100, the smallest ones holding about a dozen large cans, or a dozen and a half to two dozen smaller cans. These canning outfits are accompanied

MRS. J. D. McKENNA'S DEATH

We feel confident that the many readers of the Maritime Farmer will join with the office and mechanical staff in heartfelt sympathy for Mr. J. D. McKenna, our business manager, in his great loss, the death of his wife, which took place in St. John suddenly on Saturday last, after a period of lingering illness, borne with christian fortitude.

Mrs. McKenna was a lady of particularly fine and lovable character, always forgetful of self and abounding in good and kindly deeds to others. Every charitable and patriotic movement had in her a staunch supporter, no matter what personal sacrifices were involved. Her home was her castle and her husband and children her first and foremost consideration. She is survived by her husband and four children, Olive, Kathleen, Doris and Louis. Also by her father, Mr. Jas. McGivern of St. John; one sister, Mrs. Capt. Knowlton of Kentville, and one brother, Richard McGivern, Vancouver.

The remains will be laid to rest in Kirk Hill cemetery, Sussex. Services will be conducted in Trinity Church, of which she was a life long member.

by the necessary tools and directions for using, and are very easy to manipulate. It is true that, in this work, as it is with every other work that man or woman is called upon to do in this world—brains count. If you are bright, alert, neat; if you have common sense and mother-wit; if you have ambition; if you have a will that is bound to find a way, you will succeed where others lacking in many of these essentials, will fail. That is Nature's way of rewarding or punishing us.

One thing is sure, that whatever may happen, eating will never go out of fashion, and so if you can provide good food in such shape that it can be easily handled and will keep well, you are sure of a market. But—please do not write in and ask the Household Editor "how" you can sell things you put up. So often people write asking me where they can sell their stories and poems, where they can sell their fancywork, where they can sell their canned goods, how they can get good jobs, and will I please write such and such a "paper" for them to read at some grange meeting or club. I cannot do any of these things for you, and if you will stop and think, the reasons will appear to you clearly. I don't know what you can do, I don't know what your product is worth after you turn it out, I don't know your conditions, or your neighborhood, or your market.

In fact, I am just a housekeeper like yourselves, and I know if I want to sell anything that I produce, I have to hustle around and find my own market. Conditions and places and people vary, and there is one sure thing, that if you want to "start things coming your way," you have to go after them.

If the directions for canning by the cold-pack method are not clear enough to you, or lacking in any essential point, you are at liberty to write to me about it, and if I can answer your questions I will gladly do so.—

Almost every housewife puts up fruits and makes jellies and preserves, but comparatively few of them can any vegetables, with the exception of tomatoes, says Harriet J. Hopkins, of the Massachusetts agricultural college. The general impression seems to prevail that such vegetables as peas, beans and corn cannot be successfully canned in the home. These and other vegetables, however, may be, and they are superior in color and flavor to some of the commercial products, as well as being more economical.

The spoiling of food is due to the presence of micro-organisms which attack it. These micro-organisms get into the food from the air; they live on the food and cause it to spoil. The mold on fruit, meat or bread, the souring of milk, the gas produced in a jar of decaying fruit, the odor of decaying meat or fish, the rotting of fruits and vegetables—all of these are the results of the activity of these micro-organisms. Bacteria, yeasts and molds are everywhere. They are blown about in the air and alight on everything about us. In order that they may grow it is neccessary that they have heat, moisture, food and oxygen. Of these micro-organisms which occur on food materials and cause their decay, each has its own preference in regard to food. Bacteria do not like sugar, nor do many of them care for acid. They prefer foods containing protein, such as milk, eggs, peas, beans, corn, meat, etc. This kind of micro-organism is hard to kill. Yeasts, which are another type of organism, prefer sugar and are not affected by weak acids. They spoil our fruits and fruit juices. Yeast and yeast spores are easily killed. Molds grow on bread, jelly, fruit, etc. and are quite easily killed in the spore state.

What Spoils Food

Since bacteria, yeasts and molds are responsible for the spoiling of our food the problem, then, is to devise some means of preservation by which these plants are either killed or their growth prevented.

Successful canning of food is dependent upon (1) the destruction of all life both on and in the food and the can in which the food is to be placed—

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The Herd Bull an Important Factor in Constructive Breeding Plans

By Geo. P. Grout, in Guernsey Breeders Journal

To those who already have a successful working dairy, there may be no need of talking improvements although none of us have begun to reach the limit of possibilities in live stock husbandry. It requires ability in the line of selection to start a herd but it takes constant thought and vigilance to keep it up to the standard. With the best bred stock there is a former inferior type, and unless one has ability to see and select the best, a good herd will not long remain excellent. In my days of less experience, I used to think that extra good stock might likely be found in almost any herd and therefore it was poor policy to buy foundation animals of experts as their price would be prohibitive. I have now learned by experience that a man who does not know and appreciate good stock when he sees it, cannot breed fine stuff. He may breed one or two by chance, but while chance may produce a wonderful freak, it never fixed a good, uniform, useful type.

In the selection of good foundation stock it is well to purchase as good animals as one's pocket book will warrant and from a breeder who knows his business. It is also a good plan to purchase in families. A good animal belonging to an excellent line through both sire and dam is better than an excellent individual of plain family breeding or of breeding that has never given results.

There are good individuals in all breeds and excellent producing families among all scientifically bred dairy cattle. The breed that you like the best that prospers under your local conditions, and flourishes under your care is the breed for you to keep. If you like stock and as a breed they do well for you, it is poor policy to make a change even though some other man has obtained better results with another breed. If you are not reasonably successful you would better look to yourself and see where the trouble lies. You may find some minute detail which alone stands between your herd and success.

When you have made your choice of breeds and have selected a foundation herd, either grade or pure bred, put all your ability and a good amount of cash into the selection of a good sire. The best your pocket book will afford is none too good. So much has been said and written on the subject of good sires that more and more breeders have come to realize the worth of a truly great bull. Since a boy, I have always been an admirer of a great sire. It has been my dream since childhood some day to breed a great animal. In early life my hopes ran high that I might breed a great stallion, but as modern methods of travel largely ignore the horse, I have dropped the idea of horse breeding. I would rather have it said of me that I bred a great sire and had the good judgement to keep him in service than to have it said that I had a string of World's Champions. To me the sire is important and I only wish it possible fully to express my views on the subject.

The sire is more than half the herd for good or bad results, but the great sires in any herd can almost be counted on your fingers. The great dairy sire will breed good cows out of almost any dam. You may or may not have noticed it, but in every breed there are one or two sires that stand out like lone stars in the heavens. Modern dairy methods of record keeping and the popularity of official testing have made it much easier to select a good sire, but all do not take advantage of the information given by the scales and Babcock test. Agricultural papers and Farmers' Institute workers very properly advocate the use of bulls out of tested dams whose records are high.

This method of selection of high production through the bull's dam is in itself an assurance of a high degree of merit and should be the dairy cattle breeder's "chart and compass" clearly to point the way to better live stock husbandry; but to obtain highest results, individuality, long time records and family blood lines should also be given much weight. Hardiness, medium to good size, strong constitution, correct type for the breed, good production in the near relatives and immediate family, together with high quality—these points should be sought in a good sire.

Personally, I believe strongly in the old adage, "Breed not so much to the winner as to the way the winner was bred." If it is possible to breed from record stock and also from family lines of high production, so much the better, but this cannot always be done. To do good constructive breeding requires ability, time, patience and a tenacity of purpose.

With the beginner in live stock improvement, especially in grade herds, the temptation is great to switch breeds or sires every time some enthusiastic breeder demonstrates the superiority of a certain individual within a breed. If you have travelled among farmers in different localities, you know how hard it is to find a flock of chickens in a barnyard that are all the same breed, and uniform in type. For a while barred Plymouth Rocks will be used and when it is found that the neighbors' hens of White Leghorn blood do not bother so much about setting in mid-summer, the farmer makes up his mind gradually to work into the breed and gets one or two pure bred hens and a few roosters. These are used on the Rocks, are kept for the time being but before a complete change has been brought about, it is found that the Leghorn type is wild and gives no return in meat, and as the flock is pretty well mixed it is decided to try a third breed, and so it goes. No matter how poor a farmer may be, if he keeps chickens at all, there is no earthly excuse for not having a uniform flock. Any one who has a mixed lot of chickens for more than one season, has them because he is a scrub breeder, with little tenacity of purpose and because he prefers having scrubs to making a little effort in getting a uniform type.

After the grasshoppers cleaned our family out in southern Minnesota, we were about as poor as the poorest family in Minnesota today and I know from actual experience that poverty does not make it necessary to breed scrubs. The necessity is only in the owner's mind. I know it—for I have been through the mill. We are all changeable, the small farmer and the large breeder as well. Tenacity of purpose is what we lack. The small farmer cannot stick to one breed and the large breeder cannot stick to a single sire until he has made a success with him.

This brings us to the important point in breeding. Make your selection of the breed you wish to develop and do not cross breed. If a breeder cannot cross families within a breed without danger, how can a farmer expect to cross two distinct breeds without absolute disaster? Do not inbreed but keep to one breed and work along family lines. If you wish to develop some character in your herd which you do not have, do not attempt to introduce it by cross breeding. Keep within your breed and select a mating having some of the qualifications desired. If the same foundation blood lines with their proper "nicks" are found in your foundation herd and the outcross introduced, you are quite likely to find that the progeny of this combination will be superior to either of the parent stock.

This is constructive breeding and it may be carried on in building a profitable grade herd as well as with high class pure bred stock. In every successful herd building operation, there are certain "nicks" which blended with a base blood line gives results. There seems to be no other method of determining these affinities than by experiment and through careful selection of producing combinations which carry the base or foundation family lines. By way of illustration take the production of speed in the American trotting horse. It was found that a Wilkes horse crossed on a Mambrino Patchen or Nutwood mare gave speed; other lines nicked as well but this illustration serves our purpose. There are nicks in every line of animal breeding if we are but keen enough to find them. For convenience, if you like, you can call them positive and negative crosses. The results seems to be like a current of electricity when you get the proper combination. I believe one very good reason why world's record stock does not always produce world's champions is because the nicks in the champion's blood lines are so perfectly balanced to obtain these high results that the next cross throws out the affinity and unless we can find an equally well bred and balanced pedigree in the animal mated, and of practically the same blood lines, coming down through not too closely related stock we can not look for as high results in the progeny as we obtain in the immediate ancestors.

My talk is not addressed to expert live stock breeders, but to the farmers who are breeding good producing, commercial herds, and you can use the same principles.

To sum up the whole matter, let us choose our breed and stick to it. If improvement is needed, introduce it from superior animals of the same breed and from closely related families. Do not cross breed except to get a start and then keep building on the same foundation.

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

Subscription price $1.00 per year. This paper is sent to subscribers unless a definate order for discontinuance is given.

The date after your name on the little green label on front page, is in every case the time to which your subscription is paid.

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The Maritime Farmer, instead of giving you one receipt in the year for a paid subscription, sends you 24, or one every two weeks. You will find it on the GREEN COLORED LABEL on which your address appears. The date printed thereon is that on which your subscription terminates. If on payment of your subscription the date is not changed within two weeks, please notify us. No other receipt will be sent.

JUNE 12, 1917.

DATES OF ISSUE.

June	12-26
July	10-24
August	7-28
September	11-25
October	9-23
November	6-20
December	4-18

FARMERS SHOULD DO MORE ADVERTISING

Advertising pays the manufacturer, the wholesale merchant, as well as the retail merchant. It pays the business man, no matter what line of goods he carries. It pays the farmer and poultry raiser just as well as the business man—if properly managed.

If you have good stock that has merit, don't hesitate to let others know about it. There are others who are just as eager to buy as you are to sell, but they will not buy of you unless you let them know what you have to sell.

One of our most successful stock breeders says:

The first question naturally arising is how to do it—how to go ahead. My advice, from a long experience of successful advertising, is to go at it just as you would any other venture; study the question carefully and begin. If you make a mistake profit by it and try again starting with the idea that adverising is an investment and not an expense. When selecting an advertising medium, by all means choose a paper along your lines of business. If you have farm produce, cattle, seeds and the like, advertise in an agricultural paper. As a poultry breeder, I find that a good agricultural paper or local county papers are excellent advertising mediums. It will reach the class of people who are interested in the very thing that you have to sell, otherwise they would not be reading it.

Select a paper that you consider reliable and one that has a good circulation. Let this point interest and influence you more than the rate charged for space. The cost of an advertisement is not measured by what it costs you alone, but by what it brings. Some advertising is cheaper at $4 an inch than some other at $4 a page. No reliable paper charges a good rate for its space without having a reason for so doing. Cheap space may not be cheap in the end. That the best is the cheapest is an true in advertising as in everything else. One good paper will bring better results than several cheap ones.

After having selected your medium and arranged for space, do not make the mistake of trying to crowd too much reading matter into the amount of space. Too many are careless in their preparation of an advertisement; they seem to think all depends on the medium, this is not so. An attractive advertisement is just as far in advance of a poor one, as the decorated show window is ahead of the one filed with last year's goods. Make your advertisement just a little different from others—have a style about it that is all your own.

Having decided where and how o advertise, the next question is when. The best time to advertise is all the time. Spasmodic attempts do not count for much. It is the everlasting keepnig at it that brings results. People think before they buy and some of hem do a great deal of thinking before spending their money. It is a sure thing that they will not think about your stock unless they know about it. By all means keep your name before the public all the time. If you advertise only in the spring, you will not interest the man who prefers to buy in the fall.

Tell some of the merits of your stock this month and tell something different next month, or tell about the same thing in a different way. A business bringing advertisement must interest the people. As you cannot interest all of the people all the time, you must endeavor to interest some of the people all the time. What interests some today may not interest others, but by changing your advertisement, you may interest nex month the very people that you missed last month.

Remember that every inquirer may be a customer. He probably will be if answered promptly and courteously. Give him the attention that you would if you were positive that his first order would be a big one. Keep after him with the intention and determination of selling to him. Do it in a businesslike and convincing manner and if he finds the goods to be as represented his second order is almost invariably sure to follow.

LAST CALL FOR INCREASED PRODUCTION THROUGH PLANTING

The Maritime Farmer would like to sound a last call in the interests of more food production for this season. Many seasons have come and gone since the farmers of the Maritime Provinces have been so retarded in their work of planting and sowing as they are this season. And the late season is not peculiar alone to the Maritime Provinces, other parts of Canada, the United States and Great Britain are also similarly affected. It is not yet too late to prepare soils and use it to advantage in growing crops. Each one must study his own particular situation, the main thing is produce to capacity, while at the same time reducing waste, and the farmer who does both, ranks a close second to his brother who is fighting in the trenches, whereas, he who does neither is a veritable slacker.

Word comes from the United States that the winter wheat crop is badly injured, and no one can fortell what other unfavorable conditions may arise before the 1917 crops are safely garnered

All over this continent, as well as elsewhere, not only farmers, but city and town people are straining as never before, to help tide over the period of almost certain food shortage which we are facing. As already mentioned, each must use his best judgment as to what line his extra production may take. To the livestock man it may mean grow more roughage o produce more beef or milk. To the grain grower, a few extra acres of flax, potatoes, turnips, or some garden truck. The essential thing is to do something more than you intended, to make an extra effort,—and now, even at this late period, think carefully if you cannot add a few more productive acres to what you already have in.

Today the man with loyalty in his heart, and health and youth in his veins is either facing the foe in the trenches of France or elsewhere, or doing his bit, perhaps equally well, by following the furrow from early morn till darkness casts her mantle over the land, in an ever-ceaseless endeavor to supply the real sinews of war. And here men not physically fit through age or otherwise, as well as women find equal opportunity for assisting their country in her hour of need. The slacker is despised and the man who is apathetic regarding production should be equally despised. Both court disaster. What we need is sensible activity which at present spells production. We particularly urge all our somewhat slothful readers, if we have any, to wake up, shake yourselves and wake up your drowsy friends, or neighbors, if you have any. The food crisis is serious, the gravest in the history of the world. Let us be men and face it by doing our part to overcome it.

THE FARMERS' AUTOMOBILE

A Western exchange says there is an increase of 200 per cent. in the machinery being sold to farmers this year over last year. The farmers not only have the desire to farm their land on a larger scale and in a better manner, but they have the money with which to buy the necessary machinery. The cash sales is very much larger than in former years. One farm estimates that no less than 1,200 gasoline tractors have been sold to settlers in Southern Alberta this season. The same conditions prevail in the Maritime Provinces. Not only the regular farm machinery lines are being bought, but automobiles also, which are now acknowledged to be one of the farm necessities, are being extensively purchased by our farmers.

It is said that in the province of Alberta the licenses are now over the 10,000 mark. We believe the farmers who can spare sufficient money to purchase an automobile, is making a good investment. The person who is not in position to pay for the machine, or who must allow other matters to suffer in order to buy, should leave it religiously alone until such a time as he can purchase the auto without inconveniencing himself. The pleasure derived from the use of an automobile and the time one can save in making market and business trips, is a money making and saving proposition.

* * *

Potato scab can be prevented by soaking sets by soaking sets in Formalin, 1 pint in 30 gallons water, soak 2 hours. Change potato ground; avoid fresh manure or lime.

Editorial

SOIL FERTILITY ITS ECONOMIC MAINTENANCE AND INCREASE.

(Continued from page 491)

the inevitable loss due to natural farm operations. There is a limit to which we can enrich our soils, and that limit is determined probably by climatic conditions, and partly probably by soil conditons; there is a limit beyond which it would not pay to put plant food in the soil. We believe, therefore, there is a great economy in frequency of application, for thereby we reduce the natural waste of fertility. On light soils there is a greater waste from those natural process than in heavy soils, heavy soils being more retentive and more conservative than light oils; to putt in concrete form, we believe that 5 tons per acre every third year will give a better return than 10 tons every sixth year, simply because there will be less loss Of course, the question of labour has to be considered in a matter of this kind; but having grasped the principle the farmer will be prepared to plan his work towards carrying it out in some degree at least. We think you may get some idea from this argument as to the reasons for our advice in this matter. It is briefly that camparatively small applications at short intervals are more effective than larger dressings applied less frequently.

POSITION OF MANURE IN THE SOIL

We may now pass on to another point: that is, in regard to the position of manure in the soil. The larger number of the feeding roots of most of our crops lie fairly close to the surface; at least, that is, in humid districts. In arid and semi-arid countries there is a tendency for the roots to go down after moisture, and we may have, as I have seen in certain portions of this country, a dry earth mulch of six or eight inches in which there will be no feeding roots, or practically none. The roots of plants take in their food in the form of a solution, and therefore the roots must go down to water to get their food. Speaking of Eastern Canada, where there is an ample precipitation, usually, and this fairly well distributed throughout the season, we find the larger number of the feeding roots fairly close to the surface, say within the first six inches of soil. If such is the case, we want the food where the feeding roots are, where the moisture is; and consequently, we do not think there is any economy in deeply burying the manure. There will be a larger return from a limited amount of manure lightly turning it under, or by merely carrying it into the prepared surface, as by discing, than by burying it by deep ploughing. Of course, there are soils which need deepening, and that should be done gradually; and there is no doubt that the deeper the surface soil is the better condition the soil is in to conserve moisture. But we have to consider that we have only a limited amount of manure—and unfortunately it is in all too small quantities on the majority of our farms—and we have to make the most of it. Consequently, we think it is a more profitable practice to keep the manure comparatively near the surface.

FRESH VERSUS ROTTED MANURE.

We may now take up the question of fresh versus rotted manure, and we have made very careful and through experiments with regard to that phase of the subject. The result at first sight may seem very surprising, and difficult to explain, because we say that, weight by weight, our fresh manure has given yields almost equal to those obtained from rotted manure. It seems a remarkable result, but nevertheless it must be true, because we have tried it over and over again. We do not mask the fact that rotted manure, weight for weight, contains more plant food than fresh manure. That is, a ton of rotted manure will contain more plant food than a ton of fresh manure, and it is very easy to understand why this is the case; yet, nevertheless, when you make a practical field test you find that the yield from a ton of fresh manure is almost equal to the yield from a ton of rotted manure. Now many explanations could be advanced, but I am not quite sure that I could make those explanations altogether satisfactory to you because I do not know that they are altogether atisfactory to myself. I think there are various reasons for the fact, for fact it is. I think that possibly chemistry, biology and physics all play some part in this matter, but as practical farmers all we need is to realize is that this conclusion regarding fresh manure is correct. We do not seek to make our farmers scientific men; all that we want to do is to induce them to work on scientific principles, and to apply those principles discovered by experiment as far as they may be able. We trust they have confidence in our ability and in our rectitude and will accept this fact.

LOSSES FROM MANURE.

We have done a considerable amount of work of a very careful character with regard to the changes that take place in the rooting of manure; we have traced the losses which inevitably follow, and we have determined these losses under various conditions. We know very well, as everybody else knows who has done any experimental work on this important problem, that it is impossible to rot manure without some loss, even under the very best conditions. Further, we undertake to say this: that on the ordinary Canadian farm, and I believe we are conservative in this, that where the manure is not at once utilized by being put into the soil, or on to the soil, the farmer is losing one-third of the initial value of that manure. We have studied the various methods of rooting manure, and we have come to the conclusion that the losses are least where the manure is kept compact and protected from rain. These are the indispensable conditions. The more manure is opened up and turned the greater will be the bacterial activity and the greater will be the loss—the loss of organic matter largely and the loss of nitrogen; there are very serious losses in these constituents due to excessive fermentation. On the other hand, where the manure is not protected from rain, we have losses from leaching, and those losses are chiefly in potash and nitrogen. Taking it all in all, we doubt very much whether the farmer who does not spread his manure on his fields as far as may be possible when the weather and the condition of soil permit, who does not utilize his manure by getting it into the land or on the land as soon as possible, does not lose from one-third to two-thirds of the plant food originally contained in that manure. If he can get his manure on to his fields while still fresh he may return to his soil seven-tenths of the plant food taken from the soil by the growth of his crops. We have never discovered any method which will prevent loss. The changes begin immediately after voiding, especially in the liquid or urine portion, which is highly nitrogenous, and therefore easily susceptible to composition. It should be impressed upon our farmers that this liquid portion is much more valuable than the solid part, not merely because its plant food is soluble and immediately available. After the urine has been in the stable for a few hours you may notice that the atmosphere smells strongly, and if you were to examine it you would find it contained ammonia, derived from the decomposition of the urine. Just as soon as the urine is voided, if the conditions are favourable, bacterial life becomes active and ammonia is evolved.

It is necessary to quote our work exclusively, but referring to the experiments of others who have worked more extensively than ourselves on this problem, it has been found utterly impossible to save all the plant food which is contained in manure, no matter what system of rotting is followed. The sooner, therefore, that it is got into the soil the better. It will be apparent that when manure is thrown out into the barnyards, and allowed to lie unprotected, the losses must be very large; and I am quite sure that I am well within the limits when I say that under such conditions there is from one-third to two-thirds of its plant food, lost, apart from the loss of its humus-forming material by fermentation. So that brings us to the point that manure has no greater value than at the moment of its production: there is no doubt that its initial value represents its maximum value. Of course, we must be prepared to admit at for certain purposes rotted manure is more desirable than fresh manure; these are special cases. On the other hand, there are soils for which fresh manure is better than rotted manure, as for instance a heavy clay soil. But the point we want to emphasize with the farmers in this campaign is, that the manure in ordinary farming is never of any greater value than it is at the moment of its production.

NATURE AND COMPOSITION OF MANURE.

No farm product is so variable as manure, the composition and value of which depend on a great many factors, Among these are the kind, age, function and food of the animal producing it, the quantity and nature of the litter employed and, last but not least, the care taken in its production and preservation.

The analysis of a large number of samples of fresh horse and cow manure from animals well fed and bedded with sufficient straw to hold all the liquid excreta, gives the following average figures per ton: Nitrogen, 10 pounds; phosphoric acid, 5 pounds; potash, 10 pounds.

The following table states in approximate terms the relative proportions of solid (dung) and liquid (urine) excreta and bedding found in fairly well made manures of the more common farm animals. It also gives the amounts of nitrogen, phosphoric acid and potash in these compounds.

The data express percentages and pounds per ton.

APPROXIMATE AVERAGE COMPOSITION OF MANURE (FRESH) FROM VARIOUS ANIMALS.

Nearly ninety per cent of the total potash excreted by the cow is to be found in the urine, and this, in addition to the fact that one-half or more of the total nitrogen excreted is also present in the liquid excreta. It thus comes about that, weight for weight, urine has a greater manurial value than the solid excrement, and this not only by reason of its larger percentages of potash and nitrogen, but because these constituents are in a soluble condition and practically at once available for the nutrition of crops.

MANURIAL VALUE OF CLOEVR.

Looking to the question of increasing the fertility of the soil, it is important that we understand the manurial value of clover. I do not know of any institution that has done the same amount of work in the laboratory and in the field with the legumes as the Experimental Farms, and all our work has been eminently satisfactory. Farmers must be made aware of the unique property of the legumes in that they are able to appropriate the atmospheric nitrogen. This they are not able to do of themselves but, through the agency of certain bacteria that live in tubercles on their roots. We have been able to show that in this way the legumes may furnish and add to the soil, when turned under, from under, from 50 to 150 pounds of nitrogen per acre. This nitrogen is taken from the atmosphere and it is a most valuable addition to the store of plant food in the soil, vastly increasing its productiveness. Even when the crops of alfalfa are cut and used for fodder still the soils will be richer in nitrogen from growing these crops, because of the nitrogen in the root system which is left in the soil, and the larger the root system the larger the manurial value of the soil. Of all farm crops these leguminous crops alone enrich rather than impoverish the soil. All other crops leave the soil poorer in nitrogen. Some soils are without these nitrogen-fixing bacteria, and in these cases we must adopt the practice of inoculating the soil with cultures of these bacteria, which are necessary to the growth of alfalfa or clover or other leguminous crop. Soil from a field growing clover or alfalfa is an excellent inoculating medium and can be used instead of a culture. We have found, however, that in certain cases that failure in the growth of clover or alfalfa has not been due so much to the absence of the nitrogen-fixing bacteria in the soil as to the unfavourable conditions of the soil; that is to say, for instance, it has been acid instead of alkaline. In such cases the application of lime or ground limestone has given beneficial results. We have been able to show during the past ten or twenty years that we can enrich the soil to a very large extent not only in nitrogen but in humus by the growing of a legume crop systematically in the rotation. If a comparison can be made (the comparison may not be strictly accurate, very few comparisons are), we think that the growth of clover in a rotation is practically equal to a good dressing of manure of say ten tons per acre of ordinary farmyard manure. I do not wish to be considered as laying that down as a definite and absolute fact, but nevertheless by the introduction of a rotation which includes clover or other legumes in districts in which legumes can be grown luxuriously, we find there is invariably a marked increase in the fertility of the soil; and we have repeatedly found an increase in crop yield therefrom equal to that which can be obtained by the use of 5 to 10 tons of barnyard manure per acre.

FERTILIZERS.

There are many inquires in regard to fertilizers, their value and function. In Canada up to the present time our knowledge respecting the value of fertilizers is largely fragmentary—incomplete, if we may so term it. The whole subject is comparatively new in Canada. We have not had the length of time to ascertain what their values may be, in any absolute sense, nor have we had the number of acres on various types of soils, with different crops, under experiment with fertilizers to afford the necessary data to arrive at final conclusions. Consequently our deductions in this matter are to be regarded as tentative and provisional. Years of careful, systematic experimentation are necessary before we can hope to speak with authority on the subject. However, we are preparing for it, and we now have experiments going on with fertilizers in widely distant points in the Dominion. These experiments are being conducted, in so far as we are able to make them, in a scientific and rational way. There have been experiments in Canada in the use of fertilizers which have been irregular and unsatisfactory. From these it is impossible to say in many instances what profit, if any profit, has resulted from their use.

FERTILIZERS AS SUPPLEMENTS TO MANURE.

We have taken the ground that it will never be economically, even if scientifically, possible to maintain soil fertilizers. Our belief is that we can use them only as supplemental to, and not as a substitute for, manure. We have obtained, if you look through our records, in many instances a very fair monetary return from the use of cer-

(Continued on page 510)

THE SECOND SPRAY

Written by G. E. Sanders and W. H. Britten at the request of the United Fruit Companies

Throughout the Valley, growers on the whole, are taking better care of their orchards than they have for hree years. The man who grows No. 3's this year will therefore have a little trouble, to say the least, in finding a market for his fruit.

It seems probable in view of the efficient organization for the marketing of apples here in the Valley that growers may look for their returns in 1917-18 to at least clear expenses and perhaps pay substantial profits. But whatever happens the Annapolis growers are going to have their orchards in excellent condition for crops in 1918 and 1919, while the competitors of Nova Scotia are going to have an immense amount of neglected orchard on their hands when the markets open again, orchard that cannot be brought to full bearing for two or three years at least. Nova Scotian growers on the whole are realizing that their duty and their opportunity will be to supply the markets, to a greater extent than ever before, from Nova Scotian orchards for three or four years at least after conditions become normal again, and so are taking measures to prevent their orchards from deteriorating.

In the control of the biting insects the second spray, or that applied immediately before the blossoms, is the most important. In the control of the green apple bug it is also the most important and, depending on the season, it may or may not be the most important in the control of fungus diseases.

The directions given in Circular No. 8 of the Dominion Entomological Branch are as follows: Second Spray.

Time.

When blossom buds are showing pink. For canker worm apply slightly earlier; for green apple bug leave until just before the blossoms open.

Material

Lime sulphur 1.007 sp. gr., or about 21-3 gallons to 100 gals. of water (1-43), adding powdered arsenate of lime 2 lbs. to 100 gals. of water.

Application

Drench thoroughly at 200 lbs. pressure, using a Drive nozzle.

Pests Destroyed

Apple scab, budmoth, browntail canker worm, fruit worms, etc. If green apple bug or green aphis are present, add nicotine sulphate, ¾ pint to 100 gals., making sure that every insect is covered with spray. For very severe infestations of green apple bug the trees must be banded with tree tanglefoot before spraying and kept clean cultivated until July 7th.

If the first spray has been applied, the best results will be obtained by leaving this spray until just before the blossoms open. If the first spray has been ommited, this spray should be applied 3 to 5 days before the blossoms open.

If green apple bug is the major pest in the orchard, the poison and the fungicide should be added about one fourth weaker and three or four times as much of the dilute spray used as is ordinarily applied, making sure that every chink and crevice about the blossoms and fruit spurs is dripping wet.

Burning by the Spray

"What is sauce for the goose is sauce for the gander" does not apply to apple trees. The susceptibility to injuhy from spray depends on a number of factors. Trees that are highly cultivated and highly fertilized will stand stronger spraying material without injury than those in sod or poorly fertilized. Some varieties, such as McIntosh Red and Gravenstein, will stand stronger spraying material than others such as Ben Davis. A tree that has few apples on will apparently show less foliage injury than one that is heavily loaded. Spraying after a period of dark weather will usually result in more injury than spraying after a period of bight, sunny weather. Spraying when the trees are wet or damp from rain will result in more injury than when the trees are dry.

In spraying we must remember that last season many varieties, such as Ben Davis, which had not been sprayed, developed marked burning of the leaves which was put down to "spray injury" until it was found that the trees had not been sprayed at all. Poor cultivating and fertilizing are as often the cause of leaf burning as spraying. The lime sulphur arsenate of lime combination as recommended, is the safest and best material that we know of at the present time for this spray, alhough we are hoping to find a better material later on.

Substitute Materials

Bordeaux 4-4-40 or 10-10-100 may be used for this spray. If prepared or hydrated lime is used, a p und or so of excess should be added and the final mixture tested with litmus paper (which can be procured from the druggist) and lime added till the solution turns the paper blue. In adding the hydrated lime to the tank full of copper sulphate solution the agitator should be started before the lime powder is poured in, for the faster the mixture is being stirred when the two ingredients are combining, the better will be the resulting Bordeaux.

The essentials in making this type of Bordeaux are: Stir rapidly while the materials are combining and add lime till the solution turns litmus paper blue. Almost any poison may be used with Bordeaux, but arsenate of lime is the cheapest poison available in the Annapolis Valley today and is perfectly satisfactory.

Nicotine sulphate may be added to Bordeaux, but when the Bordeaux is used for green apple bug spraying it should be very dilute, say 7-7-100 or 3-3-40.

From 5 to 12 per cent of slight russetting will result from the use of Bordeaux for the second spray, and it reduces the value of the poison used with it by almost one half. In spite of these drawbacks, it may prove the best material in many seasons for this spray.

Lead Arsenate, double strength, or 12 pounds of paste lead arsenate to 100 gals. of water with no fungicide. Experiments in Maine and in Nova Scotia have demonstrated the high fungicidal value of, arsenate of lead. We would not advocate anyone relying on this to control fungus in all seasons, but we have great hopes that it will prove of value. When canker worms or other insects are very bad, we would advise the application of this material in preference to the other sprays. For those who are inclined to experiment we would advise one tank of this material at 12 lbs. of paste or 6 lbs. of dry lead arsenate to 100 gallons of water.

Soluble sulphur, 1 lb. to 40 gals., and arsenate of lime, ½ lb. to 40 gals., to which is added 2 lbs. of hydrated or slaked lime. This combination is one of the most rapid killers known, and has up to the present proved safe for one application, but should not be used where soluble sulphur was used for the first spray. The arsenate of lime may be reduced as indicated with ooluble sulphur on account of the sodium present, hastening the action of the poison. We would not advocate a person using more than one tank of the combination in an orchard, until it has been demonstrated safe under all conditions, as it has for one application only, under the fed conditions where it was used in the past.

The fact that this combination costs less than ½ a cent per gallon complete, while lime sulphur arsenate of lime costs almost 1 cent per gallon and arsenate of lead, lime sulphur costs more than 1 cent per gallon, shows us the advisability of testing this material under all conditions in a small way.

Notes

Get litmus paper for testing Bordeaux and add lime till it turns the paper blue.

Measure your spray tank so as to be sure that you are not using your spray too strong.

If you have not got a copy of Circular No. 8, write to G. E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S., for one.

Troubles of the Amateur Gardener

By W.R. Reader, Park Supt., Calgary

Immediate action is the most essential thing in fighting garden troubles of all kinds, and this particularly applies to insect pests. The crop that today is hopelessly ruined by bugs, could, in most instances, have been saved by half an hour's work a few days ago. You notice that a cutworm has destroyed one of your cabbage plants. You say: "I will look for that fellow tomorrow. I haven't the time now. The next night he bites off half a dozen of your plants.

Sometimes the damage occurs because the gardener does not know what symptoms to look for. It is one thing to know the remedy for a thing and quite another to recognize at once when it should be applied.

It may help us if we first of all classify garden ailments and enemies both as to their characteristics and symptoms.

Plant diseases can be divided into four types:—First, those that are termed "purasitical" and are the result of an attack of some fungus or germ, and secondly, those known as "constitutional" and attack the organization of the plant as a whole.

Insect enemies can also be divided into two classes: The chewing and biting insects, as caterpillars, and beetles, and the sucking insects which feed on the juices of the plant as aphides or plant lice.

The cause of plant troubles is often invisible until carefully searched for. Nature protects many of these pests by making them of a color harmonious with their surroundings—the cabbage caterpillar is the color of the cabbage, the cutworm is the same tone of brown as the earth in which he hides. Others hide on the under sides of the leaves or even inside them. Still others carry on their work of destruction in the ground.

Danger Signals

The gardener must, therefort, watch out carefully for the danger signals. Of which the following four are perhaps most noticeable.

Poor color is often an evidence of something wrong. Though the tones of green vary considerably amongst different plants there is a certain tone that is normally shown when a plant is healthy and with which the gardener becomes familiar. When a yellowish tingue is noticed either on individual plants or the whole crop it is time to investigate. The trouble may be due to plant lice, to lack of nitrogen, or to lack of cultivation. It is the gardener's business to determine what is the matter. Wilting is another sign that something is wrong. Sometimes on a very hot day especially after cloudy weather plants will flag a llittle, but it is often a sign that root maggots or stem borers are at work.

Curled and twisted leaves are usually a sign that aphides are at work. These must be attended to at once for the longer delay tht more curled will the leaves become and the more difficult will the pests be to reach. Stunted growth is not always a sign that an enemy is at work, yet this condition invites the attacks of every kind of pest. When a plant is in good soil, well cared for and growing vigorously it is less liable to attack.

When cabbage and allied plants assume a sickly color with retarded growth it often means that they are attacked by club root. Top dressing with nitrate of soda and bonemeal and hilling up to stimulate growth and root action may overcome the trouble. To prevent clubroot the land should be dressed with lime before planting. Careful watch should be kept on the inner leaves of the plants. If found to have been eaten, a search must be made for the green cabbage caterpillar If too numerous for hand picking apply kerosene emulsion with Paris Green This being a poison, cannot, however be used after they have begun to head.

A wilting of the whole plant usually means that the root maggot is at work. Pull and burn all affected plants, and stimulate growth of the others as for clubroot.

A premature dying of the tops of onions is often caused by "thrips", minute yellowish insects. These insects are only present during dry spells. Kerosene emulsion or soapy water in which tobacco has been steeped will drive them away.

Besides the special troubles that I have mentioned there are other pests that attack several classes of plants.

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E. L. Colpitts, Petitcodiac, N.B.

Posssible the most serious that concerns us is the cutworm. There are a number of kinds of these, the larvae of several species of noctua moths. A description is hardly necessary, as I suppose everyone is familiar with the animal.

For single plants as tomatoes and cabbages protection may be given by encircling collar of tin or tar paper. Where this cannot be done use poisoned mash. This is made by mixing Paris Green with bran at the rate of one pound of the former to 50 lbs. of the latter. Moisten with water that has been sweetened with molasses or sugar. Scatter over the surface of the infected area. Cutworms generally feed at night and will take the bran only when moist. For these reasons it is best applied during the evening. Make it a rule to find the worm wherever a several plant denotes that one has recently been at work. The flea beetle, a minute, black, hard-shelled and very lively insect is often very trouble some to cabbages, turnips, and radishes. They come in swarms and if neglected will soon destroy a crop for they attack while the plants are quite small. It seems impossible to poison these, but fine dry air slaked lime dusted over the soil and plants often acts as a preventative.

For all insects that eat the leaves of plants internal poisons, as Paris Green or Arsenate of Lead should be used. Arsenate of lead has the advantage over Paris Green that it remains on the plant longer. For sucking insects contact poisons must be used. These consist of kerosene emulsion, solutions of soap and tobacco, tobacco dust and lime dust.

It must be always remembered that wherever pests are once allowed to gain a foothold any of the suggested treatments are likely to prove only partially successful. The better plan is never to let them get a start Keep a sharp outlook for danger signals, keep your plants in a healthy and vigourous condition, cultivate frequently, and allow no refuge to accumulate to serve as a refuge for eggs and germs. Keep on hand ready for instant use a sprayer of some kind, a powder puff, and a supply of ammunition.

Kerosene emulsion is made by boiling half pound soap in 1 gallon of water. Remove from fire and add 2 gallons of coal oil while still boiling. Churn this till thoroughly mixed.

For use dilute with 9 parts water, so that the 3 gallons of stock solution will make 30 gallons of spray mixture.

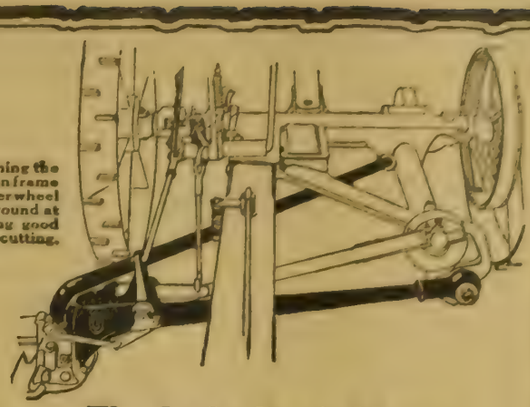
To this add 2 ounces Paris Green, first mixing the Paris Green like mustard with hot water.

Paris Green is a poison and must therefore be handled carefully.

CURING HORSE THAT HALTER PULLS

Some horses develop the bad habit of pulling back when tied so that they break their halter ropes. This, and the habit of hanging back when being led can be overcome by the following device:

Take a good rope, long enough to tie round the horse's body and then on as long as the user wishes. Use one that is strong enough so that the horse will not break it the first time it pulls back, as this is the time that will decide the cure. Tie the rope round the horse's body just back of the forelegs with a good knot that will not slip. Place the knot just up even with or a little above the base of the neck and run the free end of the rope through the halter ring. After leaving the horse tied and having led it with this arrangement for several days, the rope may be tied round the neck of the horse, and the free end run through the halter ring as before. Later, the horse may be led by the halter only.



The manner of joining the drag-bar to the main frame insures that the inner wheel will stay on the ground at all times, providing good traction in tough cutting.

Deering—The Light Draft Mower

HAVE you ever noticed the extra long drag-bar of the **Deering** mower, its connection to the frame, and the way it supports the cutter bar? It is one of the exclusive and outstanding good features of the **Deering**, and an important reason why this mower has built up a reputation for light draft and great cutting power.

Through the use of the continuous dragbar, the cutter bar has a flexible movement and floats lightly over even and uneven ground. You can test this by taking hold of the end of the **Deering** cutter bar and noting how easily you can lift it.

The weight of the cutter bar being entirely on the wheels, the traction is increased and the wheels prevented from slipping or being lifted from the ground.

The **Deering** mower has many other good features. You should write for complete description, or better still, examine the mower. Made in the desirable sizes.

Deering rakes, tedders, International side delivery rakes, loaders, and hay presses are machines that save time and labor in the hay field. Write for complete information.

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EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

With a little care and patience, the worst cases may be cured by the above method, although with this, as with all things, an ounce of prevention is worth more than a pound of cure. If one is careful with colts when teaching them to lead, and will use this method, they wil always lead up well. One should never tie a colt by the neck or even by the halter, until he learns to lead up with the body tie, and then he will never pull back.

AN AVERAGE TEST

It is well known that the percentage of fat in milk varies considerably, and for various reasons; but if an average is to be struck for any cow, it must be on the known total weight of milk and fat. Then an owner can say (and not till then can be speak from actual knowledge) "this cow averaged a 3.0 test last year, and that cow averaged a test of 3.9". The total weights can be estimated from three days' weighings per month, and one monthly test taken from samples of those weighings, during the full period of lactation.

The 3.0 average test may mean more weight of fat per year or again it may not. One thing is certain, it is only possible to know by weighing and sampling regularly. Can you say definitely that each cow you own gave over 240 pounds of fat last year?

Record forms for milk can be obtained free of charge on application to the Dairy Division, Ottawa. It will pay every dairyman to take up cow testing, keep his best cows and increase the total and average yield of the whole herd. C. F. W.

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DAIRYING.

THE DAIRY COW.

BY
E. S. Archibald, B.A., B.S.A., Dominion Animal Husbandman.

It has been clearly demonstrated that the good dairy cow is a more economical producer than any other farm animal. Not only does she actually yield more product from a given amount of feed but she does this at the least cost and greatest profit.

Notwithstanding these facts the production of milk and fat from the average cow is exceedingly low, being approximately 3,800 pounds milk and 130 pounds fat per annum which in value is less than the total cost of production. Nevertheless it has been clearly demonstrated that by better feeding and management this average may be easily increased from 30 to 80 per cent with an increased cost in feed and labor of only 10 to 20 per cent; the margin would be largely profit. Such an increase is not only a financial necessity but the patriotic duty of every dairy farmer.

FEEDING THE DAIRY COW.

The milk produced by a dairy cow of proper type is in proportion to feeds consumed plus the reserve of feed stored in the body as fat and flesh. As an example of the latter it has been shown that fresh cows may be fed on a maintenance ration or even starved for several days yet produce milk in fairly large quantities with, however, a proportional decrease of weight and flesh. Again it has been proven that cows of proper type having a store of flesh before calving will not only milk more heavily but also more persistently during the succeeding milking period. It is clear, therefore, that this supply of fat and flesh stored on the dry cow of dairy type will be drawn upon when most needed and be either given off as milk or so take the place of feeds consumed in supplying bodily needs that a larger proportion of these feeds may be utilized for milk production.

The dry cow receives little attention from the majority of dairy farmers. The thin cow at calving is in poor condition to make milk profitable and cannot produce the rugged healthy calf fitted to withstand the many calf ailments. Allow the cow four to ten weeks before freshening. A pound of meal a day during this dry period is worth as much as two or three pounds of meal fed after the cow has freshened. On poor pasture, feed the dry cow green feed, silage or roots and a grain ration composed of two parts of any two of the following meals: bran, ground oats, ground corn, ground barley, plus one part ground oil cake. To the thin cow feed 4 to 7 pounds daily; if the cow is in good flesh, give roughage as needed and 1 to 2 pounds daily of the above-mentioned grain mixture; if the cow is fat withhold the grain, but on the other hand do not sacrifice flesh or lose a thrifty condition.

FEEDING AT CALVING.

Feeding the cow at calving requires special care, varying with the individuality of the animal. Be sure that the condition of the bowels is normal. Constipation at this time is apt to induce many troubles such as milk fever, caked udder, etc. After calving give a tepid drink containing a handful of linseed oil meal per pail of water, allow to rest quietly for twelve hours, after which give a warm bran mash, with two bran mashes on the second day after calving. Feed a limited supply—6 to 8 pounds—of clean hay, preferably clover. Draw a little milk three or four times daily for the first three days; do not milk dry until after the third day, as such a procedure frequently brings on milk fever. On the fourth day start the dry meal ration consisting of 4 pounds equal parts bran and ground oats. Increase the quantity of grain and strength of the grain mixture to a full grain ration on or about the sixteenth day after calving.

FEEDING THE FRESH COW.

The feeds consumed by a dairy cow in milk are utilized for two purposes, viz., the manufacture of milk and the maintenance of the body. The cow weighing 1,000 pounds requires the equivalent of 100 pounds clover hay and 10 pounds oat straw or 35 to 40 pounds of mixed pasture grass for maintenance alone. To this must be added the feed to supply energy necessary to manufacture milk. It is evident that the meagre feeding of cows in milk will induce little if any milk flow after the surplus body tissue has been used, while liberal feeding with practically the same maintenance requirements will induce heavy milk production.

It is evident that milk produced under the latter conditions will cost much less per gallon.

RATIONS FOR THE MILCH COW IN STABLE.

The foundation principles of the successful selection of feeds and the feeding of dairy cattle depend upon the palatability, variety, nutrition and ease of digestion, and succulence of the ration given. All these essentials of a well balanced ration for economic production must be considered when raising or purchasing foodstuffs.

The most economical ration must have as a basis cheap but rich nutritious farm grown roughages such as clover or alfalfa hay, ensilage and roots. The liberal feeding of meals is advisable to balance the roughage ration and in addition to provide the heavy milking cow with an extra supply of nutrients in a less bulky form.

A pound of grain when the cow is fresh is equivalent to several pounds of grain after the cow has decreased materially in her milk flow. Feed one pound of meal for every 3½ pounds milk produced; as her lactation period progresses decrease the meal gradually to 1 pound for every five pounds of milk produced. A fair average is 1 to 4. Following are a number of well-balanced daily rations for the 1,000 pound dairy cow suitable to the individual needs of farmers throughout different parts of Canada.

No. 1.—Mixed hay 16 pounds, turnips or mangels 40 pounds, meal mixture composed of bran 4 parts, ground oats 2 parts, ground barley 2 parts, oil cake 1 part, cottonseed meal 1 part. This meal fed at the rate of 1 pound per ½ pounds of milk produced.

No. 2.—Clover or alfalfa hay 10 pounds, mangels or turnips 30 pounds, oat straw 10 pounds, meal mixture composed of bran 5 parts, ground oats 2 parts, linseed oil meal 3 parts, fed at the rate of 1 pound per 3½ pounds of milk produced.

No. 3.—Clover hay 12 pounds, corn ensilage 30 pounds, meal mixture composed of bran 7 parts, ground oats 7 parts, dried brewers grains 4 parts, cottonseed meal 2 parts, fed at the rate of 1 pound per 3 pounds of milk produced.

No. 4.—Mixed grass hay 10 pounds, oat straw or chaff 10 pounds, mangels or turnips 40 pounds, meal mixture composed of bran 3 parts, ground oats 3 parts, ground flax 2 parts, ground wheat 2 parts, fed at the rate of 1 pound per 3 pounds of milk produced.

No. 5.—Brome hay 10 pounds, clover hay 5 pounds, oat straw or chaff 10 pounds, mangels or turnips 30 pounds, grain mixture composed of ground oats, barley and wheat, equal parts, fed at the rate of 1 pound per 3 pounds of milk produced.

A plentiful supply of clean drinking water and salt is essential for greatest health and production.

FEEDING ON PASTURE.

Over large areas of Canada the milk produced on grass will always be the cheapest. Hence the proper care of pasture is most essential. If cattle are allowed on the pasture only after the grass is from 6 to 8 inches in height such pasture will yield most feed during the summer and will be best prepared to withstand drought.

Natural pasture may be supplemented in the spring and fall by sowing a patch of fall rye, or during the summer months by seeding an annual pasture mixture composed of oats and barley or a mixture of oats and clover. The most successful dairymen as a rule feed a limited grain ration even when the cows are on pasture. Bran 3 parts, cottonseed 1 part, or bran 2 parts, ground oats 2 parts, and gluten

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The Standard saves one-half pound of valuable cream per cow per week over other machines. By its unequaled close skimming it gets all but one tenth pound of butter fat from 1000 pounds of milk skimmed, while other separators lose one-half to a whole pound.

This saving may seem small until you realize what it means to you. With, say, eight cows, it mounts up to four pounds of extra butter-fat every week. At 30 cents a pound, butter-fat price, you make an extra profit of $1.20 per week, or, in 40 weeks of milking, $48.00. We will accept this amount as first payment on your new Standard. **With eight cows, your Standard pays for itself out of savings! Will it not pay you handsomely to replace your old machine and get the Made-in-Canada Standard?**

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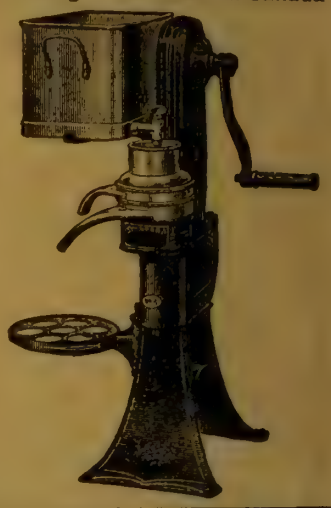
Send for interesting literature, also describing the Standard's self-oiling system, low supply can, interchangeable capacity, etc., etc.—features that are creating a big demand for this Made-in-Canada machine all over Canada, in the United States and other countries. Write to-day.



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or ground peas, 1 part, will give excellent results.

SUPPLEMENTING PASTURES.

In the shortage of grass provide good soiling crops. Supplements to pasture are peas and oats seeded at different dates, second cut clover, corn and fall turnips fed with tops as pulled. Summer silage, if available, is both superior to and cheaper than peas and oats.

THE FEEDING OF CALVES

The quality of and the profit from the future herd depend upon the breeding and quality of the calves and even more on the method of rearing. The best of calves both as to type and breeding may by poor rearing develop into small stunted and unprofitable cows while poorer calves by good rearing may develop into very useful animals. Hence the subject of calf rearing is one of great economic importance.

The following methods with such variations as are needed will give excellent results:—

Remove the dairy calves from the cow at birth. Do not allow them to suck, unless weak or unable to drink, or unless the cow's udder is severely caked. Mother's milk for the first four days, at the rate of 8 to 10 pounds divided into three or four feeds, is essential Feed whole milk for the first ten days, then start replacing part of the same with skim milk so that when the calf is one month of age, it may be receiving in two feeds daily, 12 pounds of skim-milk plus a tablespoonful of finely ground scalded flaxseed jelly.

At three weeks of age feed a small quantity of whole oats in the manger, Fine clover hay and clean water might profitably be kept before them from this time on.

During the next fifteen weeks gradually increase the skim-milk to 15 to 20 pounds daily. Add to the flaxseed jelly other constituents to make a cream substitute as follows: Fine ground flax 1 part, fine ground oats 2 parts, ground corn 2 parts. Feed in the milk divided into two feeds daily at the rate of one-eighth pound at the start and increase to 1 pound.

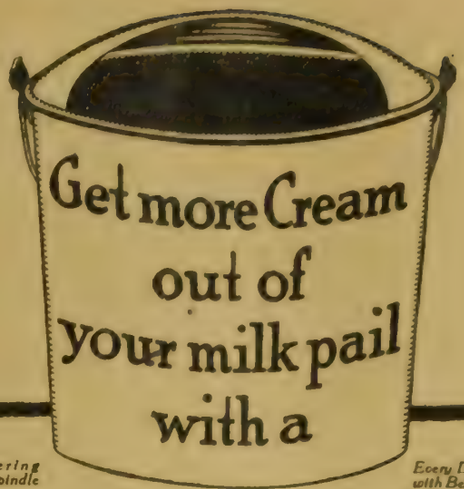
Replace the whole oats at four weeks of age with a grain mixture of equal parts bran, rolled oats, and ground corn. Start the calves on one-eighth pound per day and increase gradually to 1½ pounds daily at twenty weeks of age when the skim-milk may be gradually cut off and this grain ration increased proportionately.

Do not expose your calves to heat and flies but during extreme heat keep them in a dark cool box until four months of age after which they may have a night paddock. If fall-dropped calves keep in a clean, bright comfortable warm box stall. Feed a limited amount of roots or a mixture of roots and ensilage. Feed salt in limited quantities regularly and water as required.

RULES IN FEEDING AND MANAGEMENT.

1. Never overfeed.
2. Feed according to the individual needs and desires of each animals.
3. Feed regularly both as to the hours of feeding and the character of feeds. Sudden changes in feeds will cause not only a loss in gains or production, but will often induce ailments herewith emphasized.
4. Common ailments such as diarrhoea, impaction, bloat, grain sickness and caked udder usually result from incorrect feeding. Prevention of these troubles is surer and certainly cheaper than the cures.
5. Other ailments such as milk fever may be largely prevented if the cow is properly fed and managed before and after calving.
6. Comfortable stables having a plentiful supply of fresh air and sunshine and pastures where ample shade and water are available, will go far toward increasing production at a decreased food cost.

(Continued on page 514)



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All sorts of *"claims"* are made for various cream separators, but what you are looking for is *"proof."*

Here is the most convincing kind of proof that the De Laval is the cleanest skimming machine:

Fifteen years ago there were a dozen different makes of creamery or factory separators in use.

Today the creamerymen and large milk plants the world over use the De Laval almost exclusively. In fact, it's hard to find a large cream producer or creameryman who will allow any separator other than a De Laval in his plant, no matter what the price.

Why? Because they have found that it makes a difference of several thousand dollars a year to them whether a De Laval or some other make of machine is used. They simply can't afford to use any other machine.

This is proof of De Laval closer skimming that you can't afford to ignore. Even if you don't separate as much cream as the creameryman, you can't afford to waste it any more than he can.

Your local De Laval agent will be glad to let you try out a New De Laval on your own place. If you don't know the local agent, write to our nearest office for catalog or other information.

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LIVE STOCK.

SHEEP AND DOGS AGAIN

During the past few years no kind of live stock has equaled sheep in profitable returns. We long ago learned that native sheep in large flocks in the midwest states could not be kept healthy permanently, but that small flocks could. A flock of from 15 to 50 ewes will bring a greater net return on the average farm than any other like investment. Nearly every cornbelt farmer would keep such a flock but for the destruction wrought by dogs. Because of dogs comparatively few farmers in the middle west make any attempt to maintain flocks. The total of profits lost reaches a huge sum. The paradoxical feature of the situation is that we have dogs in almost innumerable numbers solely because farmers want them.

If the farmer chose to keep and raise sheep at a profit instead of dogs at a loss conditions would be reversed. If a majority of farmers in any state were really united in a desire to get rid of the dog menace, they could easily obtain and have enforced such legislation as would accomplish that purpose. Why do they not do it?

The pointer's and the setter's unefulness has almost gone in this section, with the disappearance of the quail in any considerable numbers; the joy of the foxhunt has been banished by the prevalence of barbewire fences; Coolies are no longer needed to care for flocks that have no existence; the stag-hound no longer finds deer to chase; wild animal life has become so scarce that the "varmint" dog does not pay for his keep, while the rat dog alone is left with plenty of work to do.

Since the dog has become so largely useless, the reason for the farmer's persistence in raising and keeping dogs must rest on sentimental grounds It is the surviving instinct of forgotten days when the dog was man's work animal, his helper in the chase and companion in lonely cave or cabin? If so, it is a remarkable instance of the survival of an attachment the reasons for which have long ceased to exist. Is this attachment founded on the undeniable fact that the dog is a faithful, intelligent and companionable? But is not the horse just as intelligent, faithful and almost as companionable? Is it because the dog is more obedient and subservient to man? Most dogs will, to a greater or less degree, obey the master's command and fawn upon the hand that wields the lash. Does this so gratify man's vanity that he finds pleasure in association with even a sheep-killing dog? Or is it that man loves and keeps his dog because it is the one thing of which he is overlord, which he can kick with impunity, and which becomes more servile under abuse? Perhaps there is something in this thought because the "ornriest" man keeps the most and the "ornriest" dogs.

One thing is certain: Town and country people are agreed in both belief and practice as to the desirability of keeping dogs. Probably the city dweller is the greater offender, for to gratify his whim he keeps dogs that are denied even a place in which to roam and are to all intents and purposes unhappy captives in a cage. But what does the dog's misery if the man or poodle-dog woman can gratify his or her feeling of mastery and display? I have witnessed the killing and mutilating of scores of sheep and lambs by marauding dogs, sometimes town dogs, but often country dogs and the nearest neighbor's. I have seen sheep and lambs after such attacks still alive, with eyes torn out and entrails dragging on the ground. In veterate hunter though I am, and lover of good dogs, second to none, the mute and helpless look of suffering in such instances appealed to me with a greater force than any affection I have for any dog. I have seen the man who owned a dog that did this cruel thing fight the man who killed the dog for doing it. I have thought that the man aroused to action by the suffering of helpless sheep that never harmed man or beast was a better man with better instincts than he who contended for his dog, no matter how much he loved it.

To my way of thinking, the man who wants to keep a dangerous animal like a dog that is or may be a menace to man and beast should be required to take such precautions as will prevent wrong and injury to others. If he will not do this of his own volition, then the law should take both him and his dog in charge before others suffer loss or damage. Much has been said and written on this subject, and much will be spoken and printed, but the dog still holds supremacy, especially the mangy, homeless, friendless cur, while the sheep is banished and mutton grows scarcer and woolen clothes are out of the reach of most dog-owners.

In Breeders' Gazette R. E. Culver.

UNTHRIFTY PIGS.. ..CAUSED BY WORMS

I have been having trouble with my hogs for some time. They seem to thrive and do fairly well until from three to five months old, when they stop thriving but continue to have a ravenous appetite, but no matter how much or how little we feed they gain very little in weight. Occasionally we slaughter one for home use and find when cleaning the intestines many long, white worms, and some times large bunches in one place. Would this be the cause of them not growing? If so, would you kindly give me a remedy. They seem to keep fat, but do not appear to grow. The worms are in the small intestines. J. K.

There is no doubt but that the worms are the cause of your pigs not growing properly. These parasites are quite common amongst swine herds and do a great deal of damage. Herds where this trouble exists should be treated once or twice should be treated once or twice a year to overcome the difficulty, at least whenever any symptoms are shown of their presence. They may even be present in quite a number and the swine not show it much where well fed and in good quarters.

Turpentine, santonin and calomel are the drugs most used for destroying intestinal worms. In treating hogs, the best and easiest method of giving the remedy is in the feed. It is best to divide the herd into small lots of five or ten and dose each lot separately. If ths is not practised all will not receive the proper dose. Drugs like santonin and calomel, that are insoluble, should be mixed with ground feed and fed in a through. Drugs like turpentine and gasoline that form an emulsion are best given in this manner. Turpentine is a cheap and convenient remedy. The dose is one teaspoonful for every eighty or one hundred pounds of live weight. Give it in the morning after the pigs have been without food for 14 hours. The dose should be repeated daily until three doses have been given.

Santonin and calomel are also very effective remedies. Five grains of calomel or eight grains of santonin may be given for every one hundred pounds of live weight. These drugs should be put in powders large enough for the lot of five or ten pigs and fed in ground feed.

THE COW THAT IS HARD TO MILK

How can a tough milk cow be made easy to milk?

What is the cure for warts on cows' teats? I would appreciate answers to these question at your earliest opportunity. A. J. C.

Ordinarily a cow may milk hard because the sphincter muscles in the teats contract very tightly. Of course the purpose of these muscles is to close the ducts and prevent the milk from leaking out, but with a hard milking cow they contract so tightly that it is hard to force out the milk when milking.

Then to make such a cow milk easier, it is necessary to use something to relax those sphincter muscles. Teat plugs, which are made of lead or hard rubber, are used for this purpose. The plugs are inserted into the teat ducts and kept there from one milking to another. In one end of each plug is an eye. A piece of tape can be run through this and tied around the teat to keep the plug in place.

Sometimes a bistoury is used to make a cow milk easier. This is a small instrument containing a little knife blade. It is easily pushed into the teat duct, the knife thrust out and removed before the animal realizes what has happened. This should not be used when the cow is dry.

In using the teat plug or bistoury, special care should be exercised to disinfect the instrument and the teat otherwise there is danger of infection. Wash the instruments and, if possible, let them stand for a few minutes in boiling water. Then disinfect with a 5 per cent. solution of carbolic acid or with one of the coal tar disinfectants. Insert the instrument without touching the part that enters the teat.

Common warts can be removed by tying a thread or horse hair around them tightly at the base and then touching the place where the wart has been with carbolic acid.

Another method is to be rub the warts thoroughly once or twice daily with castor oil, olive oil or goose grease.

Large warts may be twisted off and bleeding stopped by applying a red hot iron.

AVOID FARROWING IN FALL.

Articles are being published everywhere urging an increase of meat production. This is justified because of a decrease of total numbers of livestock during the past five years, accompanied by a considerable increase in consuming population. Much of the advice given concerning the holding and breeding of livestock is good, but occasionally someone is over enthusiastic and urges methods that are impractical. One such piece of advice advocates immediate breeding of sows for fall litters. This is probably good advice for sections having fall pastures. It is not good advice for Colorado. Sows bred now would farrow in September, and by the time the pigs would be old enough to make use of pasture, there would be no further growth of alfalfa. This means that pigs would have to be raised during the winter on grain. It is a well established fact that fall litters in this state make much slower growth than spring litters, and every pound of grain costs more. The grain fed to such pigs furnishes more human food than the pork produced from the grain. The best thing to do in Colorado is to run your dry sows and fall gilts through the summer, breeding them for late winter litters to be farrowed in February and March of next year.—G. E. Morton, Colorado Agricultural College, Fort Collins, Colorado.

PROFITABLE BEEF PRODUCTION.

Experimental Farm, Nappan, N. S.

The results obtained at the Experimental Farm, Nappan, in feeding good butcher steers, heavy fed, versus good stockers, heavy fed, were as follows:—

Eight steers were selected and divided into two lots of four each, the four being in such a condition as would class them as good butchers, the other four as good stockers. All steers had the same treatment, that is, dehorned and fed a preparatory ration until they became accustomed to their feed and surroundings.

The four good butchers, or lot 1, heavy fed, weighed at the beginning of the period 4478 pounds, at finish 5355 pounds, an increase of 877 pounds in 93 days.

The good stockers weighed 4573 pounds at the beginning and at the finish 5295 pounds, an increase of 722 pounds in the same period.

The original purchase price was, unfortunately, the same in both cases as the steers were purchased together under ordinary buying conditions or the good stockers would have been purchased at a cheaper price. The price was 6.25 cents per pound, live weight, and the selling price was 8.1 cents in both cases, as they were all sold together.

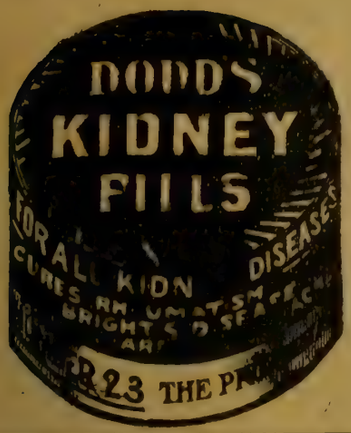
The gross profit for the good butchers was $153.88, for the good stockers $139.81. The total cost of feed for lot 1, good butchers, for 93 days, $99.16 and the same cost for lot 2, good stockers, length of period and feed being the same, having a net profit per steer of $13.68 for lot 1 and $10.98 for lot 2, a difference of $2.70 in favour of the good butchers.

The average profit per steer for three years for good butchers, heavy fed, was $18.38; for good stockers, heavy fed, $16.06, a difference of $2.32 in favour of good butchers, heavy fed.

The average cost for three years to produce 1 pound of gain in good butchers, heavy fed, was 10.33 cents; for good stockers, heavy fed, 11.08 cents, a difference of 0.75 or ¾ cent per pound in favour of the former. The ration fed to both lots 1 and 2 was at the beginning of the period 60 pounds roots, 6 pounds meal, 1 pound molasses. At the finish 40 pounds roots, 16.5 pounds meal and 2 pounds molasses.

The meal mixture was made up as follows,—200 pounds ground oats and barley, (equal parts by weight), 200 bran, 50 oil cake, 50 cotton seed. The cost of same was $1.50 per hundred weight. Roots were valued at $2.00 per ton, hay at $8.00 per ton, molasses 20 cents per gallon.

The above results would indicate that with selling prices the same, the greater profit would be realized from feeding good butchers, but the prices under ordinary conditions at purchasing and selling time would show a greater difference than the above, which would undoubtedly bring the good stockers up a little. In any case the better finish will give the good



butchers a still greater advantage at selling time, so that we must conclude that they are the more profitable, more especially for a short feeding period.

DEVICE FOR THROWING ANIMALS

By John Brander, Nesbitt, Man.

Judging from contributions to your columns, a number of your readers are up against the problem, at times, of knowing how to throw an animal and secure him while an operation is being performed, such as putting a ring in the bull's nose, sawing off his horns, castration, treating for lump jaw or for any other purpose. I have quite a novel plan that I used a good many years on nearly all animals thrown, from a pig to a horse.

It consists of some 30 to 40 feet of half inch rope on two double pulleys made for purpose, with a self locker on one pulley. It is a "block-and-tackle" and sold for the purpose of stretching barb wire. Take a two-year-old bull, for instance. Tie a piece of good strong rope to one front leg, then forward round a post and to his other front leg. The rope should be about two feet high as it passes round the post and held from falling down. Take another piece of rope (the stronger the animal the stronger be the rope) and tie it to one hind leg, leaving a foot or two, and then tie to other hind leg. There then should be a post 8 or 10 feet away but directly behind him, to which fasten the block-and-tackle some 4 or 5 feet high and hook the other end to the rope on his hind legs. Draw his hind feet from under him by pulling on the rope and the bull will fall on his side, and by a slight effort he may rolled on his back. By placing a stick of wood at each side, he is there to stay, ready for the operation.

The plan works as successfully on a month old calf or a cow. I have used it successfully while castrating two-year-old colts. As our stable is large and solidly built, we do all this work in it where we have easy access to plenty of posts.

The cost of pulleys and rope is somewhere from $2 to $3 and, if cared for, will last for 10 or 12 years. The pulleys are exceedingly handy to have on the farm for hoisting a pig butchering, stretching wire on a fence, and for many other purposes and is well worth its cost. It saves a lot of hard work and worry.

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For further information address

THE PRESIDENT,
Dalhousie University,
Halifax, N. S.

DININFECT AND CLEAN YOUR BARNS

Farmers are constantly advised to disinfect their stables, hen-houses, calf pens, etc., but some do not know how to proceed to do it effectively in all cases. The following explicit directions will be found useful and might well be fi ed for future reference.

Chemical disinfectants are used to good advantage in controlling disease and the following directions for ther use are given.

1. Sweep ceilings, side walls, stall partitions, floors and other surfaces until free from cobwebs and dust.

2. Remove all accumulations of filth by scraping; and if woodwork has become decayed porous or absorbent, it should be removed, burned and replaced with new material.

3. If floor is of earth, remove four inches from the surface; and in place where it shows staining with urine, a sufficient depth should be removed to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.

4. The entire interior of the stable, especially the feeding troughs and drains, as well as milking stools and all other implements, should be saturated with a disinfectant, as cresol compound or carbolic acid, six ounces to every gallon of water in each case. After this has dried, the stalls, walls and ceilings may be covered with white-wash (lime wash), to each gallon of chloride of lime.

5. All refuse and material from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under. In addition, the yards should be disinfected by sprinkling liberally with a solution of copper, sulphate, five ounces to a gallon of water.

The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as is used by orchardists.

This method is efficient in disinfection against most of the contagious and infectious diseases of animals, and should be applied immediately following any outbreak, and as a matter of precaution it may be used once or twice yearly.

TREATMENT FOR LUMP JAW

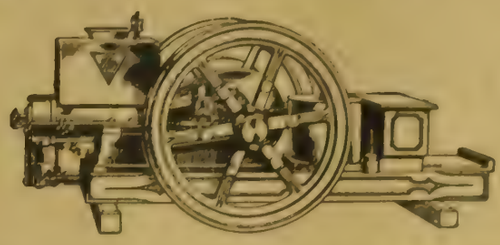
I have a cow which I think has lump-jaw. She is a valuable 3-year-old heifer, and I would like to know through your paper if it would be all right to use the milk from her, or sell the cream, and if you know of any treatment that would cure it?

M. J. R.

Medicinal treatment of this disease consists in giving each affected animal one drachm of iodide of potassium three times a day in a solution of soft feed till the effects of the drug are visible in the production of clavering at the mouth, tears in the eyes, loss of appetite and scurfiness of the skin; then stop it for a week or ten days and repeat. This condition will develop so as to be seen usually in form ten to twenty days. A couple of months or so of this treatment will usually cure all those affected in the soft tissues. The above dose is right for a three-year-old steer weighing fourteen hundred pounds; smaller and younger ones should get proportionate doses. As soon as an animal shows signs of having the disease she should be isolated and kept there until cured or destroyed.

The meat or milk of an animal affected with this disease should not be used for food for man or beast.

ALPHA



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The Alpha is a simple, powerful engine that will give you more reliable service and cause you less trouble than any other engine you can buy.

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THE HORSE

TREATING HORSES THAT BECOME AFFECTED WITH SYMPTOMS OF AZOTURIA

There is no other disease that has as many terrors for the horse owner and the veterinarian as has azoturia. Veterinarians are able to diagnose the condition in practically one hundred per cent. of the cases, but out of one hundred veterinarians it is doubtful if you would find ten that would agree on just what was the cause of the condition, and among this number you would find just as much variance in the treatment of thiscondition.

This disease is a cold weather disease as we see much more of it during the cooler months of theyear, and very seldom during the hot months of the year. It usually occurs after a short period of idleness and usually in young growing horses, but does occur in older horses. It is much more severe as a rule in city horses than it is in country horses, which is due, no doubt, to the more concentrated feed that they receive, and the more violent exercise that they receive. In city horses it many times comes on so suddenly that the driver has had no warning of it and the horse suddenly goes down. In country horses, however, you will usually have ample warning that it is coming on, as the symptoms appear before the disease is well established. A larger number of city horses die in proportion to those affected than do country horses.

It remained for a western veterinarian to announce a theory that seems to be the best that has been offered to date, and one which will stand investigation pretty thoroughly. This they have termed the mechanical theory.

The horse at rest is many times fed rich nitrogenous feed that makes the blood thick and heavy. The circulation becomes sluggish, due to the lack of exercise. The great amount of nitrogenous material in the blood will make the muscles of the blood vessel walls flaccid and weak. They do not have their normal elasticity. While on the other hand the nervous system is stimulated and the horse is feeling exceptionally good. You rarely see a horse come down with azoturia that did not feel better immediately preceding the attack than he has for some little time. The horse is taken out to work or for use of any kind and since he is feeling so good and his nerves are stimulated so highly, and the blood vessels are weaker than usual the exercise that he receives for the first few minutes causes his heart to work much faster than usual and in fact the horse will work the heart more in a few minutes than it would ordinarily in a much longer time, thus it pumps large quantities of blood into the blood vessels that are not in shape to handle this large amount of blood and this makes the animal very excitable and brings about a paralysis of the particular muscles in which this blood has stopped. Most times if the animal is stopped when the symptons are noticed a rapid recovery takes place as the vessels rid themselves of the large amount of blood and in a few hours the horse is normal. If, however, rest is not given at once, the vessels become totally unable to remove the large quantities of blood that was pumped into these parts and it is only a matter of several hours until it has coagulated and then the animal dies with symptoms similar to apoplexy.

Azoturia usually manifests itself in a number of ways. Some horses will act very much like a horse with an attack of acute indigestion and will look around at the flank occasionally and show quite a little pain, and even get up and down a few times. Others will show an affection of the muscles of the fore limb or of some other group of muscles. Many of them will show a marked lameness in one hind leg and rarely in both, together with a marked swelling of the muscles over the loins. Some horses are so very nervous that it is almost impossible to give them medicine by way of the mouth.

Now, in city horses they almost always go down, even with all that the veterinarian may do. But the cases in the country are more mild and many of them, if receiving good care and attention will remain upon their feet throughout the attack. The animal that does not recover enough to get upon its feet at the end of forty-eight hours is very apt to die. The majority of those that recover will get up at or before the expiration of twenty-four hours. A few will remain down for several days and then recover, but these are exceptions to the rule.

Horses that go down with this condition should not be put in slings, neither should they be raised up in them, as it does more harm than good. Horses that are down should be turned over every three or four hours. Horses that can not get up with the aid of a couple of strong fellows lifting on the tail, very rarely get up or stay up very long, even when slings are used. When the attack is coming on do not fight the horse in an effort to keep it on its feet, because the exertion that you cause it to put forth in trying to stand will only aggravate the condition. If the horse wants to lay down, let it do so, and then make it as comfortable as possible. Rest is the most essential thing in the treatment so stop the animal as soon as something is noticed to be wrong, and keep the animal as quiet as possible. Do not try to make some town or some barn, but stop where you are and if necessary blanket the horse, but above all keep him quiet.

Horses that are lightly exercised and then rested for thirty minutes before going to work after a short period of idleness, do not get azoturia. This light exercise stimulates the circulation and thus no clogging of the blood vessels occurs and the azoturia is prevented. Horses in which the grain ration is very much reduced during the idle period and whose bowels and kidneys are kept working free from being fed properly, very seldom contract this disease. Horses that have been idle for some little time, if they do get this will have a much lighter attack than those horses that have only been idle for a day or so. Mares do not have the disease as severely as do geldings and the percentage of recoveries is much larger in them than it is in the geldings.

When the animal is known to be susceptible to this condition or when it shows by its actons that somethng is wrong, especially if it has been idle for a day or so, and if it has been feeling exceptionally good for the first few minutes after starting to work, then suspect azoturia and stop the animal at once and keep it just as quiet as possible. Send for a veterinarian as once in a while a case that looks very mild may seem to be getting along very rapidly and at all at once take a relapse and go down. Do not take any chances, as they are sometimes the cause of the loss of a valuable animal.

If you have an animal that is susceptible to these attacks cut down the grain ration one-half or more when the animal will be idle for a day or so, and then give some exercise every day. If perchance a day or two must be missed, before using again, exercise for a few minutes and then place in the barn and let the animal rest for a half hour. Keep the bowels free by the use of oil meal or bran.

There is no treatment that is specific and the proper care and attention that should be given by the owner early in the attack and then the care through the attack will many times contribute more to the recovery than anything that could be done.

G. H. CONN.

BARN-YARD MANURE VERSUS COMMERCIAL FERTILIZER.

In this article, we will not conider Fertilizers at present prices but as they were before the war, and as we hope they shall be when peace is restored. Does it pay to use Commercial Fertilizer? Yes, if we study and use it intelligently. But it does not pay to use it and let our Barn-yard manure go to waste. Some Farmers use the manure only after it has lost 50 per cent of its plant food, first a large part of the liquid which contains 2-3 of the plant-food drains through the stable-floors and is lost. Then the solids are thrown out by the barn where if left for 5 months will lose 50 per cent. Store it as we may it will los from 50 per cent to 50 per cent of its value, according to the manner of storage.

Where stored by the barn we may notice on some fine spring morning the nitrogen going up from it like smoke, and after a rain we notice a little brown stream trickling towards the Creek carrying with it the phosphoric acid and potash.

To make this more apparent let us assume that a man has ten cows and eight horses. The manure from these is allowed to accumulate for six months in heaps, and to stand on the average for 8 months. In 6 months ten cows would make about sixty five tons of manure and 3 horses about thirteen tons being altogether about seventy-eight tons which is worth about $200. If this manure has been kept as above it will depreciate to $100 i. e. a loss of $100.

And then to make matters worse

NOTICE

The attention of owners of stallions is drawn to "An Act to Provide for the Inspection and Registration of Stallions," 5th George V., Cap. 18, and 6th George V., Cap. 44, under which all stallions travelled or offered for service must be enrolled at the Department of Agriculture on or before the 1st day of May, 1917.

Inspectors will be appointed by the Department, to report on each animal before a certificate is issued. Evidence of breeding and ownership must be submitted and a fee of $2.00 forwarded with application.

Further information can be obtained by applying to

Department of Agriculture
Fredericton, N. B.

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THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

the man who carelessly allows $100 worth of manure to escape into the air and the brooks, probably buys $40.00 or $50 worth of Commercial Fertilizers an amount of money which he could have kept for other purposes, had he more carefully conserved this manure.

Let us look for a moment at the value of manure from different farm animals.

One ton of Manure contains about

	Nit.	Phos. Acid	Potash	value about per ton
Hens	30	25	17	$8.35
Hogs	16	8	6	4.00
Sheep	15½	7	11	4.20
Horses	10	5	9	2.75
Calves	10	.3	11	2.75
Cows	8½	5	8	2.40

One ton of average barn-yard manure is worth about $2.97 that is one ton of well preserved barn-yard manure contains as much Nitrogen, Phosphoric Acid and Potash as would cost $2.97 to buy in chemical form.

There are other home fertilizers that go to waste such as wood-ashes which contain up to 5 per cent potash and which are often thrown out and left to leach away. Then there is the fish offal, of which along the shore, hundreds of tons are thrown into the sea annually and yet this refuse is worth from $20 to $40 a ton as a fertilizer.

Then we have large peat bogs. Prof. Bottomley of London, states that the application of 600 lbs bacterized peat to the acre would double the crop of wheat just how or with what he bacterizes peat we do not know but we hope to get the information in the near future.

Again we have green crops to plough under and this is the slowest but perhaps the cheapest way to fertilize our oil.

If we must use commercial fertilizer, by all means let us use the chemicals only. We object to use ready mired Commercial Fertilizer. First on account of having to pay the freight on what they call "filler" secondly on account of having to pay about $8.00 a ton for mixing which we could do for much less money if we have the material to mix. We dont even have to mix the chemicals if we sow by hand, but can sow each separately. Thirdly, because no company mixes the fertilizer to suit all soils as different soils require dfferent amounts of varous kinds of plant-food. For instance, some soils need large applications of potash while such would be injurious to other soils such as heavy clay loam. Now let us study our soils and get the chemicals and mix them to suit.

Let us assume that we purchase
Nitrate of Soda 400 lbs.
Acid Phosphate 1200 lbs.
Muriate of Potash 400 lbs.

Making 1 ton carrying 3; 9½; 16; costing us about $29.00 in per war times.

We would pay our Local Agent $42.00 for a ton of ready mired fertilizers carrying the same amount of plant-food or if we would use a lower grade say 1½; 5; 5 (of which there is more used than the higher grades) then we must take 2 tons to supply the same amount of plant-food which could cost about $51.00.

This shows plainly why we should use the chemicals only.

Today we hear it preached Lime, Lime and more Lime. An application of 1 to 4 tons per acre is all right once in a life-time, but "a continuous living year after year without manure will make; both farm and farmer poor". Or "it may enrich the eatter and beggar the son." Let us rather than force nature to give up more than she sees fit, help her by supplying in some form each year a little more plant food than our crops take from the soil. We will then not be soil robbers and when we leave our farms they will be in a better state of fertility than when we took charge of them.

Paper read by A. W. Dauphinee, before the Annual meeting of the Lunenburg County Farmer's Association.

MINARD'S
"KING OF PAIN"
LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
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—Mr. S. Kaulbach.

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—Mrs. S. Masters

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Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Boot Chafes. It is an
ANTISEPTIC AND GERMICIDE
[NON-POISONOUS]

Does not blister or remove the hair and horse can be worked. Pleasant to use. $2.00 a bottle, delivered. Describe your case for special instructions and Book 5 K free.

ABSORBINE, JR., antiseptic liniment for mankind reduces Strains, Painful, Knotted, Swollen Veins, Milk Leg, Gout. Concentrated—only a few drops required at an application. Price $1 per bottle at dealers or delivered.

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Absorbine and Absorbine, Jr., are made in Canada.

LUMP JAW

For twenty years the only sure cure has been Fleming's Lump Jaw Cure. Use it no matter how old the case. It must cure or we will refund the full price paid. Fleming's Vest Pocket Veterinary Adviser is free.

FLEMING BROS. CHEMISTS
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"Walter would rather stay home and milk than go away on a picnic!"

HOW to get along with less hired help, and yet escape the drudgery that drives boys away from the dairy farm—this is the problem that is being solved by the

EMPIRE Mechanical Milker

No one seems to like hand milking, yet every boy loves to run a machine. Here is a typical example of how it works out:

AMHERST, N.S., Jan 5, 1917

Dear Sirs:—
Walter, who was 16 years old, loves a machine, but hated to milk cows, so we bought the Empire Milking Machine that was shown at the Winter Fair at Amherst in 1916. It has given good satisfaction in every way.

We have milked at the rate of 40 cows an hour, but think it best not to exceed 32 as that leaves very little stripping to do.

One cow that only gave 21 quarts the year before, gave 29 quarts with the machine; two others that gave 22½ quarts the year before gave 26 to 28 quarts this year when machine milked. We have just one cow that refuses to give her milk down with the machine. The cows are very much quieter when machine milked and sore teats are all done away with. Walter has taken full charge of engine and milker since it was put in and has never missed a milking—would rather stay home and milk than go away on a picnic. GEO. E. FREEMAN

While overcoming the strongest objection to the life of the dairy farmer, the Empire Mechanical Milker is helping hundreds to make more money. Why shouldn't YOU be one of them? Write for Illustrated Booklet and full particulars to Dept. L

THE EMPIRE CREAM SEPARATOR CO. OF CANADA, LIMITED.
MONTREAL. TORONTO. WINNIPEG. 64

KEEP YOUR HORSES IN PRIME WORKING CONDITION

SOUND legs pull big loads. No horse with a Spavin, Splint, Curb, Ringbone, Bony Growth or Sprain, can do itself justice. Thousands of horsemen have been keeping their horses sound by using Kendall's Spavin Cure—the old reliable, safe remedy. Mr. Maurice Wayville, Amherstburg, Ont., wrote on April 20th last—"I cured a jack spavin with two bottles of your Spavin Cure. I am just taking off a bog spavin. It is the best liniment for sprains you can get for man or beast. I would like to have a copy of your "Treatise on the Horse".

KENDALL'S SPAVIN CURE

acts quickly, leaves no scars or blemishes, and costs little—$1. a bottle—6 for $5. Get our valuable book—"Treatise on the horse"—free at your druggist's, or write us 111

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is the great producer of vigorous stock, is a Canadian Food and a medicine excellent for horse, pig and poultry. It gives endurance, increases appetite and gives vigor.

As a blood purifer and for increasing the quantiiy of milk in mare and cow it is highly recommeded. It is economical. It saves grain. Mixed with other food it makes a big saving in feed expenses.

Ask your merchant for these preparations

Watch the improvement in your stocks. Write us for circulars.

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INSTEAD OF PAINT

DON'T paint your pretty home this season, but use instead Velvex Creosote Shingle Stains. By so doing, you can bring out all the beauty of the wood. And think of the preservative value. Velvex Shingle Stains contain Creosote, the greatest wood preservative known. This means prolonged protection against wind and weather. It therefore means *economy.*

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Half the Cost — Twice the Wear

Velvex Creosote Shingle Stains cost about half as much as paint. And they wear much better because they penetrate the wood. They do not evaporate or dry out and of course they cannot peel off. These stains come in any color you want. They are very easily applied. You ought to investigate them. We have the complete line and we know you will like them.

Write us for a sample of wood stained with Velvex Creosote Shingle Stain.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

POULTRY.

NEED OF A CHICKEN HOUSE

There is no question that every person who raises chickens should have a building to house them in.

The proper size of the henhouse will depend on the number of fowls it is designed to shelter, and the excellence of the ventilation. Some experienced poultry writers have asserted that two and one-half feet floor space is sufficient for each bird, but I think that three feet is little enough. Three feet floor space for 100 chickens would require a building about 10x32 ft.

In whatever style it is built, two things are absolutely essential, and without which success with poultry cannot be expected. The building must be windproof and waterproof. The walls must be tight enough to keep out the rain. To expose hens to a draft of cold air blowing through cracks, is determental to their health, and sure to bring on sickness.

Fowls, the same as human beings, must have pure, fresh air to breathe, or they will become consumptive and die. There is no perfect system of ventilation that I know of; they are all constructed on the principle of letting in fresh air at the bottom, and causing the vitiated air (which is lighter) to pass up through a ventilator in the roof.

Our poultry house is 10x16 ft., and 8 ft. high to the plates, with a ridge roof, and accomodates 50 fowls. If I were to build another to house 100 fowls, I would make it 10x32 ft. and 8 ft. high to the plates, with a ridge roof, which looks better than a shed roof, makes more air space, and costs but little more.

The plates in the middle would require a cross girt to prevent spreading. I would use rough hemlock boards (which are cheaper than pine) nailed vertically to the sills and plates, and the cracks battened on the outside with hemlock battens 2 in. wide and 1 in. thick. Hemlock roofing lath on the rafters and two courses of hemlock boards for the roof—the upper course covering the cracks of the lower. On the southeast side, the roof should project two and a half feet beyond the plate, in order to cover the nest boxes (which should be on the outside) from rain and snow—the next boxes to extend across that side, securely covered with hinged lids, one for each nest. This enables the eggs to be gathered from the outside, without disturbing the hen that may be laying in the next box. On the inside, there is a shelf for the hens to walk on, and an opening for entrance to each nest. Hens loves privacy when they can get it, and this arrangement by which each nest is hidden from the others, gives them the privacy they want, and by furnishing plenty of nests, prevents in a great measure several hens laying in the same nest. Another advantage, by sliding a stopper over the inside opening, a sitting hen can be protected from intruders that want to occupy the same nest, either as layers or sitters. By propping up the nest lids on the outside of the house, the sitting hen can come off to get feed and water.

The floor is of hemlock boards, planed, in order that they can be more easily swept every day. Dry earth and road dust are kept for scattering under the perches, and swept out every day with the droppings and put into a box under cover for manuring the garden. The perches are all of the same height, so that there may be no quarrelling about the "highest seats in the synagogue." The perches are not nailed fast, so that they can be taken down and scrubbed with lime water. There is a hen ladder for the big clumsy hens to get to the percher without flying. There is a slatted cupola in the peak of the roof for ventilation. There are two 12-light windows, one in each gable end.

J. W. Ingham.

ROOFING
MILL ENDS CHEAP
A limited quantity of High-Grade Mill Ends for sale cheap. Samples Free
FACTORY DISTRIBUTORS
BOX 61 HAMILTON CANADA.

CHOLERA

This disease is contagious and is caused by microbes. It arises from unsanitary conditions, such as contaminated food and water served in dirty dishes, and from the droppings of sick fowls. Lowered vitally is another cause. Two of its symptoms are thirst, and yellow and greenish droppings. When going about among the fowls, an occasional glance at the droppings will quickly detect the presence of cholera.

Moping birds with pale or dark combs and ruffled feathers should be immediately placed in a separate coop, where they cannot run with the rest of the fowls. Whitewash and disinfectants should be freely used in this hen hospital. All infected droppings and dead birds should be burned, or buried in some place where the other fowls never go. Burning is best. Fowls affected with cholera die in a day or two. If possible, the fowls in the coop where the disease first makes its appearance should be shut off from the rest of the flock until all evidence of the disease has passed. Preventivie methods are everything, as after the disease develops, medical treatment is generally a failure. I have known cholera to run through a coop of 35 hens, killing nearly all.

In this connection, it is well to state that too many hens should not be kept in one coop. It is much safer to divide the flock into sections. Cleanliness is one of the essentials in raising poultry. Plenty of fresh water, grit, clean food, and roomy, well-ventilated houses will do much to ward off disease. If you have lost many fowls in the past, just pause a moment, in your busy rounds of duty, and ask yourself whether or not you have given careful attention to such rules as are outlined in this article. Experience is our best teacher.

TIPS IN TURKEY BEARING THAT WILL MAKE THEM GROW

The turkey business has been seriously injured by the prevalence of blackhead in many flocks. The technical name of this disease is "infectious entero-hepatitis," and that means inflammation of the intestines and liver, caused by a micro-organism.

Blackhead most frequently occurs in birds from one to four months of age and it sometimes wipes out entire flocks. The symptoms are drooping wings, ruffled feathers, diarrhea and sometimes the head turns purplish before death. On performing a post mortem, if yellow green spots are found on the liver it is practically sure that the disease is blackhead.

Blackhead is a very contagious disease and infected birds should be destroyed and the healthy members of the flock removed to an isolated place while the former runs are disinfected with a five per cent. solution of carbolic acid. Feeding sour milk to turkeys is excellent in keeping down the ravages of the disease.

In raising turkeys inbreeding must be avoided. In purchasing parent stock it is well to select birds from different parts of the state in order to be sure and obtain unrelated birds. The rise in turkey raising is so great that the most vigorous breeders are none too good.

Turkeys require plenty of fresh air, and they will not stand as much confinement as hens. If the roosting poles are placed in open front sheds the birds will do very well, as they need no protection except from winids and dampness.

Many turkey raisers feed the birds nothing through the summer season when insects are plentiful on the range. A long string of turkeys strutting through an orchard gathering bugs is a sight worth watching and the value of turkeys on large fruit farms cannot be overestimated. A large orchard possibly surrounded by clover fields and woods will insure a turkey flock with an abundance of food and seven or eight months of the year they will manufacture turkey meat without cost to their owner.

The turkey hen will select her own nest in a slightly protected spot on the range and sometimes in stormy weather it pays to place a small A-shaped coop over the nest. If the nest is in a fairly safe location possibly a coop would only attract prowling animals at night and the hen would be more sure of a good hatch if left entirely to herself. In either case raising turkeys is something of a gamble. Science seems to have made small progress in solving the living problems of young turkeys.

R. G. KIRBY.

Clean to handle. Sold by all Druggists, Grocers and General Stores

MATURE THE PULLETS TO GET EARLY LAYERS

The eggs that are laid during the moulting season are mostly laid by the early matured pullets. A large source of profit in the poultry business consists in hatchiing early chicks and rushing their development to an early maturity. In order to accomplish this, much attention must be given to their feeding. They should have a well-balanced ration, lagely protein in nature, and plenty of it.

Early rapid growth is obtained from muscle building protein feeds. Where the chickens are allowed to run over a large range they will get a good many worms and bugs that will prove to be a great aid. However, they must not be made to run their legs off chasing after this kind of feed as it may retard their development. If flock is large, range feeding alone is apt to produce very poor results for the reason that the older chickens will get most of the worms and bugs and little will be left for the younger. Part of their protein feeds should be given to them and they should be encouraged to eat.

Chickens grown in conjunction with the dairy should have access to unlimited quantities of milk. Nothing can be better for them, even after they are full grown hens. We give them penty of milk, both winter and summer. Meat scraps should also be placed before them freely, although this is not so essential where there is plenty of milk. Very little fat producing grains should be given; it had better be saved for some other purpose . Growing pullets should have plenty of exercise to make a normal,

Severe Headaches and Pains in the Back

Resulted From Deranged Kidneys and Constipation of the Bowels.

It is in vain to try to regulate and restore the healthful action of the kidneys until the liver and bowels are set right.

And just here is where so many kidney medicines fail. Kidney derangements almost invariably begin with constipation and torpidity of the liver. The whole work of filtering the blood is thrown on the kidneys, and in time they fail to stand the strain. The poison in the system gives rise to severe headaches, pains in the back and tired, depressed feelings.

Because they act directly on the liver and bowels, as well as on the kidneys, Dr. Chase's Kidney-Liver Pills are eminently successful in the treatment of kidney derangements.

Mr. William Loney, Marysville, N.B., writes:—"I am glad to recommend Dr. Chase's Kidney-Liver Pills to anybody who is suffering from kidney trouble or constipation. I suffered for a long time from kidney disease and pains in the back, but have found that by using one pill a week the kidneys and bowels are kept in good order, and I do not have any more pains in the back or head like I used to have. I was also a great sufferer from piles, and could get no relief until I used Dr. Chase's Ointment. This ailment is entirely cured now, but we always keep both the pills and the ointment in the house for use when they are needed."

This statement is endorsed by Mr. F. Saunders, Town Marshal, who writes that Mr. Loney's letter is true and correct.

Dr. Chase's Kidney-Liver Pills, one pill a dose, 25 cents a box, all dealers, or Edmanson, Bates & Co., Limited, Toronto.

Remember that imitations only disappoint. The genuine bear the portrait and signature of A. W. Chase M.D., the famous Receipt Book author.

WAS WEAK and RUN DOWN

SUFFERED WITH "NERVES."

Many women become run down and worn out by their household cares and duties never ending, and sooner or later find themselves with shattered nerves and weak hearts.

When the heart becomes weak and the nerves unstrung it is impossible for a woman to look after her household or social duties.

On the first sign of any weakness of either the heart or nerves, take Milburn's Heart and Nerve Pills, and you will find that in a very short time you will become strong and well again.

Mrs. J. A. Williams, Tillsonburg, Ont., writes: "I cannot speak too highly of Milburn's Heart and Nerve Pills. I suffered greatly with my nerves. I was so weak and run down, I could not stand the least excitement of any kind. I believe your Heart and Nerve Pills to be a valuable remedy for all sufferers from nervous trouble."

Milburn's Heart and Nerve Pills are 50c. per box, 3 boxes for $1.25, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

healthy and rapid growth, but they will get this on the range no matter how much feed you place before them because it is their nature to hunt and scratch for worms and chase bugs. During the winter when they must neccessarily be kept shut in it will be necessary to provide an incentive to exercise, but until that time give them plenty of feed and they will provide their own exercise.

The important thing is to produce quick-maturing pullets early in spring and keep them growing steadily so that when laying time comes they will be sufficiently matured to begin laying and producing results. Then is the time of year when eggs are scarce and every pullet that lays will bring in big returns.

P. H. EATON.

COST OF RAISING LEGHORN PULLETS

SUMMARY.

1. Based on four seasons' work and several thousand chicks hatched, it required 1.83 eggs set, for every Leghorn chick hatched.

2. The cost of hatching these eggs was $.021 per chick, which when added to the cost of eggs increased the total cost of a chick when hatched to $.057.

3. Based on the first twelve weeks of life, it took 5.69 pounds of grain and mash and 5.07 pounds of milk, costing $.1434 to feed a Leghorn chick.

4. During the same time, it took 3.59 pounds of grain and mash and 3.41 pounds of milk, costing $.084, to produce one pound of gain.

5. When figuring cost of feed, fuel, labor and litter, the whole cost of one pound of gain was $.154.

6. The average Leghorn pullet twenty-four weeks old and ready to lay, weighed 2.75 pounds.

7. The feed was by far the most expensive item in the cost of rearing chicks.

8. On the basis of 100 chicks hatched and a 17 per cent. mortality, the per cent. pullets and the per cent cockerels were 40.1 and 42.9 respectively.

9. The time of hatching greatly influenced the rate of growth of chicks, price of broilers, net cost of growing and weight of pullets at laying age. Early hatching paid best.

10. Early cockerels were sold at a profit. May-hatched broilers sold at a loss.

11. The gross average cost of a pullet was $.434. This, less profits in cockerels, made the net cost $.381.

12. Mortality varied and influenced the final cost. The average mortality of 999 chicks was 17 per cent.

13. For every pullet reared it required the setting of 4.57 eggs.

14. Cockerels grew more rapidly than pullets.

A. G. Phillips, Purdue University, Ind.

Castor oil is a good remedy for the stunted chicks and it should be given in capsules. Pouring a spoonful of oil down the bird's throat may cause it to strangle.

The use of lice paint continually in the poultry houses is a good preventative measure. To reduce expenses one-half, kerosene can be mixed with the lice paint. The paint gets in the feathers when the birds are on the roosts and it assists in preventing feather eating.

When canker is chronic it goes through the system of a bird and the bird must be killed. Continual running at the nose may be a sign of canker and it does not pay to keep a bird that may contaminate others Sparrows may carry chicken pox from one farm to another. Apoplexy comes from overfeeding and lack of exercise. Never doctor a chicken that is not sick and it is not necessary to use permanganate of potash in the drinking water if there are no colds in the flock.

RATIONS FOR HENS.

Feeders of horses, cattle, sheep and hogs have claimed for years that these animals must be fed a "balanced ration." Special attention has been given to balanced ratios for dairy cows. By this is meant that one food constituent should not be fed in excess, while another is lacking for the upkeep of the animal's body. The protein must be in a certain proportion to the sugars, starches and fat in the food. Now the hen comes in for her share in this scientific feeding.

Ten times as many eggs were produced by hens fed a well-balanced ration as by those given only corn, wheat and oats in an experiment conducted by the Ohio Station. The balanced ration consisted of three parts by weight of corn and one part of wheat fed twice daily in the litter, and a mash mixture of two parts meat scrap added to two parts ground corn and one part bran fed in self-feeding hoppers. The hens given the balanced ration ate more feed, which cost about 50 per cent. more than the ration of corn, wheat and oats. However, they gained more in weight and produced ten times as many eggs, making a net profit while the other lot was kept at a loss. The test period lasted for 140 days.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
Box 309 WINDSOR, Ontario

London Cement Drain Tile Machine

Makes all sizes from 3 to 18 inches. Price with one size $250.00. Cement Drain Tile are here to stay. Large profits in the business. If interested send for catalog No. 2.

LONDON CONCRETE MACHINERY CO.,
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World's Largest Manufacturers of Concrete Machinery

Guaranteed To Satisfy

The "Sunshine" Furnace gives healthful, warm air heat—and plenty of it. When installed, according to plans furnished by our heating engineers, it is guaranteed to give absolute satisfaction. Write for free illustrated booklet.

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SUNSHINE FURNACE

LONDON TORONTO MONTREAL WINNIPEG VANCOUVER
ST. JOHN, N.B. HAMILTON CALGARY
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Back Up The Boys Who Are Fighting For You!

Work and save as earnestly and wholeheartedly as they are fighting in France!

Work at something that helps directly toward winning the war! Save, and lend your savings to the nation, to finance the struggle and furnish everything needed to the men in the firing line.

For every $21.50 you lend the nation now, you will get back $25 at the end of three years—an Interest return of over 5%. Certificates are issued in denominations of $25, $50 and $100 and may be purchased at $21.50, $43 and $86 respectively, at any Bank or Money Order Post Office.

"Save for the men who are saving Canada."

The National Service Board of Canada.

R. B. BENNETT, Director General.
C. W. PETERSON, Secretary.

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Advertise in the Maritime Farmer for Results

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE RECKONING

By Theodore Roberts.

Ye who reckon with England—
Ye who sweep the seas
Of the flag that Rodney nailed aloft
And Nelson flung to the breeze
Count well your ships and your men,
Count well your horse and your guns
For they who reckon with England
Must reckon with England's sons.

Ye who would challenge England—
Ye who would break the might
Of the little isle in the foggy sea
And the lion-heart in the fight—
Count well your horse and your swords
Weigh well your valour and guns,
For they who would ride against England
Must sabre her million sons.

Ye who would roll to warfare
Your hordes of peasants and slaves,
To crush the pride of an empire
And sink her fame in the waves—
Test well your blood and your mettle,
Count well your troops and your guns,
For they who battle with England
Must war with a Mother's sons.

THE INFLUENCE OF MEN ON THE BOYS OF A COMMUNITY.

"Honor and Shame from no condition rise Act well your part there all the honor lies."

A few weeks ago while calling at the home of a friend I noticed on her mantle the small statue of a boy, his cap tilted rakishily on one side of his head, a pipe in his mouth and wearing a pair of long boots many sizes too large for him. The whole attitude of the figure was one of careless dare-devil-try. On the base of the statue were the words "Just Like Father." While it amused me it gave me food for thought. Every boy I think wants to be "just like father"—or if not at least like the older brother or perhaps some man in the community whom he takes as his ideal. Those who have studied boy nature understand that he hates to be thought a molly-coddle or show any feminine weaknesses whatever, but instead he wants to be a sailor like Uncle Jack or a soldier like Billy Smith or perhaps a horse-jockey like Jake Turner.

Fathers are important factors in the training of boys; with many apologies to big brother Man I venture to assert that the average mother can manage a boy better the father can; but the ideal condition only exists when the father and mother work together. The father ought to be the boys best chum.

In training colts the one who has learned to hold the rein loosely enough to allow perfect freedom, but keeping a firm grasp upon them should they become restive is a good driver. So with boys, the father who can guide without driving who can be indulgent and yet firm are rewarded for their efforts by seeing their boys grow up to be upright honest men. Boys are not always to blame for their wildness and stubborness. They are like young colts that have been spoiled in their training and have developed curious habits. Responsibility for much of the moral depravity that exists among boys lies first at the door of fathers and second at the door of the young men of the community. Training children has gone out of fashion to some extent. The farmers of the country spend more time and thought and anxiety over the training of their colts than their children. Surely this ought not to be.

Fathers, when you have provided food and clothing for your children do you think that this is enough? You have by no means fulfilled your duty. If they are not willing to spend their evenings at home you may rest assured that something is lacking and that in some way you are responsible. A little expenditure of time and money in providing attractive quarters for the boys brings in large returns in the years to come. There seems to be a mistaken idea that boys do not care for nice things. Boys like pleasant rooms as well as their sister only it must be planned on different lines. There let them entertain their friend and in this way you may weed out the undesirable companions for your boys, whom they will not meet unless they are sent out into the "highbys and byways" to seek companionship.

I once heard a young girl say "Boys from the age of 18 should be kept in a barrel and fed through the bunghole. They are simply intolerable. Big blundering things." She was of course young too and intolerant. We cannot deny that the period in a boys life that the girl deplored tries the patience sorely, but those who have his best interest at heart, feel that these are the years when he needs the greatest care and the most study. The influence of his companions at this time may make or mar his whole life. These are the most critical years. The impressions made at this time are never effaced. It is then that the germs of vice or virture are sown; that feelings and sentiments are developed which affect materially the character of the future MAN. His associates (the men of the community) are the ones who turn the scales for good or ill.

This is the awkard age for the growing boy and he feels it more than we grown ups understand. His big brother says: "Why dont you take the stair-case with you?" when he stumbles going up stairs, or; "Why don't you sit on your hands to keep them out of the way?" he asks brutally when he sees the blundering fellow trying to appear at ease. Surely a society for squelching the older brother should be organized in some households. Remember our boys are the hope of the nation and the older men of the community should help them to "make good"...they are shaping the characters and inclining towards either good or evil the future citizens of their country.

The life stories of Washington of James Watt and Sir Issaac Newton all go to show the influence of good companionship at this stage of development in the boy's life. We do not consider the great influence that invironment has, as much as we should. Young men who have gone a little farther in life's journey, you have many reasons to be temperate pure and manly; for there are many boys who are copying you. The old Scotch saying "A childs among ye takin' notes and faith he'll print it" is often truer than we realize, and many a so-called "bad boy" is merely "printing" notes that he has taken from an older person....someone he has idealized.

Longfellow writes:

"No action whether foul or fair
Is ever done but it leaves somewhere
A record written, by fingers ghastly
As a blessing or a curse ond mostly
In the greater weakness or greater strength
Of the acts which follow it."

And certain it is that our influence "rolls from soul to soul and grows for ever." Like a stone thrown into a clear pool of water causing circles to ever widen from it, our influence in the clear conscience of young children will remain for ages.

Among the blackest blots on the life of any community is the evil of intemperance. It kills kindness, and sympathy, making the victim an easy prey to all manner of vicinousness. I have known young men who have not only taken the downward step themselves but have also and much worse induced the boys of the neighborhood to take their first glass. Young men do YOU realize what you are doing? "Far better that a mill stone were hanged about your neck and that you were cast into the sea than that you caused one of these little ones to offend."

All over the civilized world men have formed themselves into "catch my pal societies" and "Big Brother, clubs that they might keep the young men from this and other blighting temptations. Am I my brothers keeper," you ask. Certainly you are and when you are able to say with St. Paul "If meat make my brother to offend then will I eat no more meat, while the world endureth" we will not be noble men nor true patriots.

Then young men why not prohibit the sale of liquor? If young boys are reared in a community where the men work unitedly for the cause of temperance and vote for men who will demand temperance legislation they will come to know its dire effects and the end of the liquor traffic will be nearer than we think.

The men must take an interest in the schools of the district where their sons and daughters spend the greater part of their time. The school house and grounds is often the guage of the districts moral standing. Teach boys to love out door and manly sports and see that the facilities of the school encourage these. Be interested in their base ball games and all their interests in physical and mental well being. The swimming hole at the willow shaded bend of ye river has been the scene of more real enjoyment than a whole city could afford.

In cities mean work and give of their means to establish gymnasiums' but in the country we do not need to do this. Nature has provided better gymnasiums than man ever conceived. Then by all means instill into the minds of the boys a love for clean manly sports. It will temper their nerves' develop their muscles and breed in them courage and resourcefulness as well as a keen appreciation for all beautiful out-of-doors life where "God keeps open house." Such a boy cannot help but be pure minded sypathetic, and a lover of the beautiful as well as healthy and eneggetic.

Life is very short at best. We live it only once. Let us get the greatest possible enjoyment from it. What will it avail us if we spend every moment of the best of our lives in a mad scramble for the "almighty dollar". Yes certainly we must live and to live we must work....but I think that many fathers....and men in a community are giving boys the wrong impression of the worth of a dollar. Even in homes every pleasure, or thought must come after that most important one....to get money and more money....to never let a cent slip away. It is well and necessary to teach children thrift and economy, but it is horribly wrong and we are doing our children a great injustice to allow them to grow up thinking that the earning and amassing of money is the chief aim in life. That is not the ideal we should hold before them.

Manners have been called "minor morals" While it may be true that manners may be entirely dissociated with morals it is also true that the connection between manners and morals is close enough to warrant the definition given. It is well worth while for the father to pay attention to the child's manners. The earlier it is begun the better for it then becomes a habit of life that is not easily shaken off. Boys are easily influnced in this way by the elders of a community. If they are boorish and rough the boy will think it manly to be so and immediately copy the manners.

I have not touched upon smoking

GILLETT'S LYE

HAS NO EQUAL

It not only softens the water but doubles the cleansing power of soap, and makes everything sanitary and wholesome.

REFUSE SUBSTITUTES.

HELP FOR WORKING WOMEN

Some Have to Keep on Until They Almost Drop. How Mrs. Conley Got Help.

Here is a letter from a woman who had to work, but was too weak and suffered too much to continue. How she regained health:—

Frankfort, Ky.—"I suffered so much with female weakness that I could not do my own work, had to hire it done. I heard so much about Lydia E. Pinkham's Vegetable Compound that I tried it. I took three bottles and I found it to be all you claim. Now I feel as well as ever I did and am able to do all my own work again. I recommend it to any woman suffering from female weakness. You may publish my letter if you wish."—Mrs. JAMES CONLEY, 516 St. Clair St., Frankfort, Ky.

No woman suffering from any form of female troubles should lose hope until she has given Lydia E. Pinkham's Vegetable Compound a fair trial.

This famous remedy, the medicinal ingredients of which are derived from native roots and herbs, has for forty years proved to be a most valuable tonic and invigorator of the female organism.

All women are invited to write to the Lydia E. Pinkham Medicine Co., Lynn, Mass., for special advice,—it will be confidential.

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—THE MERRIAM-WEBSTER

Even as you read this publication you likely question the meaning of some *new* word. A friend asks: "What makes mortar harden?" You seek the location of *Loch Katrine* or the pronunciation of *jujutsu*. What is *white coal?* This NEW CREATION answers all kinds of questions in Language, History, Biography, Fiction, Foreign Words, Trades, Arts and Sciences, *with final authority.*

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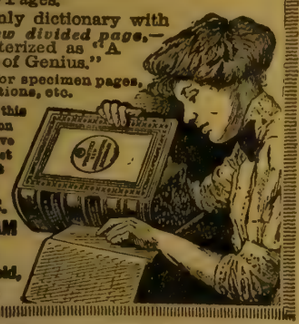


IF YOU ARE THINKING OF ATTENDING

Fredericton Business College

next term, NOW is the time to send to us for full particulars, which will be supplied on application.

There is a great demand for young men and women to take the places of those who have gone to the firing line. Address:

W. J. OSBORNE, Prin.
FREDERICTON, - - N. B.

NO ALIBI FOR YOU!

You can offer no alibi five years from now if you are still in the low-salary class!

You have it in your power today to insure a good income five years from today.

The business world and the people who Know will laugh at any attempted explanation of your poor condition or proffered alibi.

The man who succeeds at anything is the man who Knows.

That means study.

And it pays to do it RIGHT under the most expert instructors.

The way is clear for you.

You have the time, money, health, and ability to enter School today.

Moncton Business College,
Moncton, N. B.
G. J. Schmidt, Principal.

Minard's Liniment Co., Ltd.

Gents,—I have used your Minard's Liniment in my family and also in my stables for years and consider it the best medicine obtainable.

Yours truly,
ALFRED ROCHAV,
Proprietor Roxton Pond Hotel and Livery Stables.

especially the fatal cigarettes, using bad language and many other vices which so-called gentlemen practise, but be it said in all earnestness that there never was a time when in the history of young Canada there was a greater need for young men with the hall mark of manhood upon them or when the opportunities for young man were greater than they are to-day.

By your example young men teach the coming generation what it means to be a true citizen of one of the greatest nations on earth....and that there are better and higher things than mere selfish pleasures.

"He who serves his country best
Who lives a pure life and does righeous deeds
And walks straight paths, however others stray,
And leaves his sons—as uttermost bequest,
A stainless record which all man may read.
This is the better way
No drop but serves the slowly lifting tide,
No dew but has an errand to some flower;
No smallest star but sheds some helpful ray,
And man by man each aiding all the rest
Make the firm bulwark of the nations power
There is no better way.

Written by Mrs. J. Freeman McLean,
Center Napan Women's Institute,
TESTED RECIPES, FOR DESSERTS.

Good cookery means the knowledge of all fruits, herbs, balms, and spices, and all that is healing and sweet in fields and groves and savory in meats. It means carefulness, inventiveness, watchfulness, willingness, and readiness of appliance. It means the economy of your great grandmothers and the science of modern chemists. It means much tasting and no wasting. It means English thoroughness, French art, and Arabian hospitality. It means, in fine, that you are to be perfectly and always ladies (loaf-givers.) —uskin.

Vinegar Pudding.

2 cups flour — 4 tbsp sugar
3 tsp cream of tartar — 4 tbsp butter
1½ tsp soda — 1 egg
milk.

Sift dry ingredients together several times, add milk and egg. Cut dough in strips and place in sauce. Bake.

Sauce.

½ cup molasses
1 table spoon butter
1½ cup hot water
½ cup sugar
nutmeg
2 table spoon strong vinegar

Banana Shortcake.

1-3 cup butter
1 cup sugar
2 eggs
½ cup milk
2½ teaspoon Baking powder
3 bananas
cream filling
merfngue
1¾ cup flour.

Mix in the same manner as cake. Bake in sheet. When baked cover with custard, then place bananas on top cut in half lengthwise. Cover bananas with meringue and brown.

English Cream Custard For Banana Shortcake.

1 pint milk — ½ cup sugar
1 egg or 2 yolks — ½ tsp vanilla
¼ tsp salt — 4 tbsp flour

Mix flour with part of sugar, moisten with milk then stir into hot milk, cook 15 minutes. Beat egg, add remaining sugar and salt. Stir hot mixture into this. Cook a moment longer. Strain, cool and flavor.

Fig Pudding.

2 cup bread crumbs
1½ tsp B. P.
salt
½ tsp cinnamon
½ tsp nutmeg
1 cup brown sugar
2-3 cup finely chopped suet
1-3 lb figs cut fine
2-3 cup milk
2 eggs.

Mix in the order given. Steam about 2 hours. Serve with hard sauce.

Hard Sauce.

1-3 cup butter
1 table spoon rich milk
1 cup powdered sugar
½ teaspoon vanilla

Cream butter add sugar gradually, then milk and flavoring.

Coffee Tapioca

¼ cup tapioca — 2 cup coffee infusion
4 tablespoon sugar.

Soak tapioca one hour. Cook in coffee infusion, when partially cooked add sugar. Chill. Serve with cream or custard sauce.

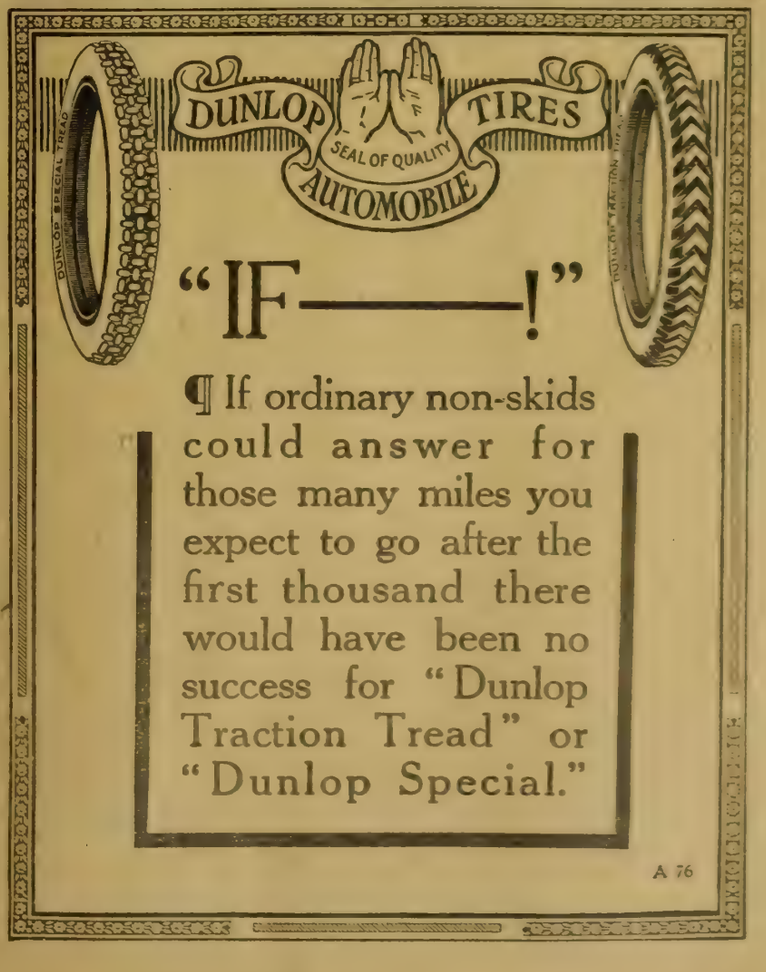
Maple Nut Pudding.

Stir together 1½ cup brown sugar, 6 tablespoon flour, ½ cup cold water. Add 2 cups boiling water and boil 10 minutes. Remove from fire and stir in the stiffly whites of two eggs. Add ½ cup chopped walnuts. Turn into mould, serve with cream.

Lemon Snow.

1½ cup water
2-3 cup sugar
thin shaving lemon rind
6 tablespoon flour
1-5 cup cold water
1-6 cup lemon juice
2 egg whites.

Make syrup of water, sugar and lemon rind. Cook 3 minutes. Remove rind. Mix flour with cold water, add to syrup and cook until there is


DUNLOP
SEAL OF QUALITY
TIRES
AUTOMOBILE
"IF——!"
¶ If ordinary non-skids could answer for those many miles you expect to go after the first thousand there would have been no success for "Dunlop Traction Tread" or "Dunlop Special."
A 76

WHOOPING COUGH

The Infant's Most Dangerous Disease.

Whooping Cough, although specially a disease of childhood, is by no means confined to that period but may occur at any time of life. It is one of the most dangerous diseases of infancy, and yearly causes more deaths than scarlet fever, typhoid or diphtheria, and is more common in female than in male children.

Whooping Cough starts with sneezing, watering of the eyes, irritation of the throat, feverishness and cough. The coughing attacks occur frequently but are generally more severe at night.

On the first sign of a "whoop," Dr. Wood's Norway Pine Syrup should be administered, and weeks of suffering prevented, as it helps to clear the bronchial tubes of the collected mucous and phlegm.

Mrs. Nellie Barley, Amherst, N.S., writes: "I have much pleasure in saying that there is no cough syrup like Dr. Wood's Norway Pine Syrup. My little girl took whooping cough from a little girl who has since died with it. I tried lots of things but found 'Dr. Wood's' to give the greatest relief. It helped her to raise the phlegm, and she is now better.

My young brother is also taking the cough, and I am getting 'Dr. Wood's' to work again."

Dr. Wood's Norway Pine Syrup is put up in a yellow wrapper: 3 pine trees the trade-mark; price 25c. and 50c. Refuse substitutes.

Manufactured only by THE T. MILBURN CO., LIMITED, Toronto, Ont.

no taste of raw starch, remove from fire add lemon juice, fold in egg whites, mould and chill. Serve with lemon custard sauce.

Lemon Custard Sauce.

1 cup milk 2 tablespoon sugar
yolk 1 egg salt
thin shaving lemon rind.

Scald milk and lemon rind, add beaten egg mixed with sugar. Cook until it thickens. Strain, cool, flavor.

QUEENS PUDDING.

1 cup cake cut in cubes
1 pt. milk
½ cup sugar
2 eggs
1 teaspoon vanilla
jelly or jam

Mix milk, sugar and egg as for custard, pour over cake which has been placed in buttered baking dish. Bake in moderate oven until slightly brown. Make meringue of whites of eggs, spread over pudding a layer of jam, then meringue and brown in oven. Serve cold.

QUEEN'S UNIVERSITY
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MEDICINE EDUCATION
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Mining, Chemical, Civil, Mechanical and Electrical Engineering.

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Arts Course by correspondence. Degree with one year's attendance.

Summer School July and August
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15 GEO. Y. CHOWN, Registrar

SYRUPS, FRUITS AND VEGETABLES

Thin Syrup

One and one-half quarts of sugar and one quart of water. Heat to the boiling point. This may be used for apples, peaches and pears or with any sweet fruit, and with those to which more sugar will be added in preparation for the table.

Medium Thin Syrup

Mix 1½ quarts of sugar and one quart of water and boil two to three minutes or until solution begins to be syrupy. This gives a density suitable for high-grade fruits for table sauce.

Medium Thick Syrup

Mix 1½ quarts of sugar and one quart of water and boil six to eight minutes or until it piles up on the edge of a spoon when poured from it. This gives a syrup of concentration suitable for strawberries and other fruits, where a thick syrup is desired.

Thick Syrup

Mix 1½ quarts of sugar and one quart of water and cook eight to 12 minutes or until it forms a very soft ball. This gives a syrup of great density and may be used for preserves.

Windfall Apples—Sliced

Peel, core and slice apples. Scald in boiling water for two minutes. Plunge into cold water. Pack in glass cans and add one cup of hot thin syrup or boiling water to each quart, adjust rubber and top on glass and partially seal. Sterilize 16 minutes in hot-water bath. Remove jars, tighten covers and invert to cool.

Berries, Cherries, etc

Can fresh, sound berries the same day that they are picked. Remove hulls or stems if any. Place in strainer or colander and pour cold water over them to cleanse. Pack closely in jars without crushing. Pour hot syrup over to fill jar. Place rubber and top on glass jar and partially seal. Sterilize 15 minutes in hot-water bath.

Peaches

Grade for size, ripeness and quality. They should be graded carefully, and only those that are just beginning to soften should be used. They may be peeled with a knife if there is but a small quantity of peaches to be canned Or, scald peaches one minute in boiling water. Plunge into cold water. Remove skin. Halve, pit and pack in glass jars. Fill with hot syrup. Adjust rubber and top and partially seal. Sterilize 15 minutes in hot-water bath.

Strawberries

Can fresh, sound strawberries on the same day that they are picked. Remove hulls. Place in strainer or colander and cleanse by pouring water over berries. Pack closely in jars without crushing. Pour hot syrup over fruit to fill. Place rubber and top on glass jar and partially seal. Sterilize 15 minutes in hot-water bath.

Pears, Quinces, etc

Scald fruit for two minutes, then plunge into cold water. Remove skins, cut in halves or other desired shape, pack into cans, and pour over very thin syrup. Adjust rubber and jar cover and partially seal. Sterilize the length of time suggested in time sheet.

Tomatoes

Select ripe, but not over-ripe tomatoes of medium size and free from blemishes. Have canning outfit ready to use.

Wash jars and tops and sterilize in boiling water until ready to pack product. Rubbers may be placed in hot water for a minute just before using. Scald tomatoes, using cheese-cloth bag wire basket, crate or other device, by plunging into boiling water for one minute. After scalding dip into cold water. Remove the skin, beginning at the stem, and remove core, care being taken not to break tomato around core, thus allowing pulp and seeds to come out. The juice, however, may be used in filling jars. Fill jars with tomatoes, preferably whole ones, until within ¼ inch from top. A wooden spoon may be used to pack tomatoes tightly into jar.

To each quart jar add one level teaspoon salt. Fill jar with tomato juice (not water) until within one-fourth inch from top. Place rubber and top on jar, adjust upper wire of jar, but do not clamp lower wire. Place jars in steamer, wash boiler or commercial canner and cook for the required length of time; 22 minutes in hot-water bath.

Remove jars from canner, clamp down wire and invert to cool. It is best to cover them, in order to protect them from drafts, and thus prevent breaking of jars. It is best to examine jars after a few days to note any tendency toward fermentation or spoiling.

Beans and Peas

Blanch from five to 10 minutes in boiling water. Plunge into cold water. Pack in jars, add boiling water and one level teaspoon of salt to each quart. Adjust rubber and top and partially seal. Sterilize 90 minutes in hot-water bath. Remove jars, tighten covers and invert to cool. Prepare peas according to directions given for beans.

Corn

Corn ferments very quickly (due to the large amount of sugar it contains), hence but very little time should elapse between the time it is pulled and the time it is placed in the canner. The corn is ready to put up when the milk is thick and will not flow from kernel. As soon as possible after the corn is thick, husk and remove the silk. Trim and cut out all worm-eaten or blemished spots. Blanch 10 to 15 minutes in boiling water, plunge into cold water, then remove from cob. Fill cans, packing lightly to ¼ inch of top, adding to each quart one level teaspoon of salt. If there is not enough milk in corn to fill can, add boiling water, adjust rubber and top on glass jar and partially seal. Sterilize four hours in hot-water bath.

Kept Fit Through Two Wars

Ontario Sapper Praises Dr. Cassell's Tablets.

That a soldier should use and praise Dr. Cassell's Tablets is clear proof of the wonderful sustaining power of this great strength-giving medicine. And thousands of service men on land and sea are trusting to Dr. Cassell's Tablets to sustain them through all the hardships of relentless war.

Sapper Hartley.

SAPPER A. HARTLEY, OF THE A. COMPANY, CANADIAN ENGINEERS, whose home address is **906, TRAFALGAR STREET, LONDON, ONTARIO,** is one of many who have written in praise of Dr. Cassell's Tablets. He says:—"As a constant user of Dr. Cassell's Tablets I would like to add my testimony to their value. I used them when I was in the South African War, and, finding the benefit of them there, have taken them since whenever I felt run-down. I always recommend them, for I know they do all that is claimed for them. In my opinion they are the best tonic anyone can take for loss of appetite, poorness of the blood, or general weakness of the system. We have had a lot of hard training here, and some time ago I began to feel the strain, but I got some Dr. Cassell's Tablets, and the boys are surprised at what a difference they made in me. I mean to have some with me always on active service."

Dr. Cassell's Tablets put new life and vigour into weak, overstrained people. They nourish the nerves, enrich the blood, strengthen the general system, and create that snap and fitness which make life a joy. Take a course of them, and health and vital energy will soon be yours.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Remove, tighten covers and invert to cool.

Greens—Spinach

There are many varieties of greens that are valuable as food and these may be canned at small expense. The method of canning is the same for all. They are best canned on the same day as picked. Sort and wash greens thoroughly. Blanch 10 minutes. Plunge quickly into cold water, then pack tightly in the jars and add one level teaspoon of salt to each quart. A small piece of bacon may be added to each jar of greens for flavor if desired. Fill jars with hot water, place rubbers and tops in position, and partially seal. Sterilize 60 minutes in hot-water bath.

HOW TO CAN FRUITS AND VEGETABLES

(Continued from page 493)

in other words, through sterilization at the temperature of boiling water (2) precautions which will prevent micro-organisms from coming in contact with the canned food—in other words, the hermetical sealing of the jars or cans.

The fact that there is air in a jar does not necessarily mean that the food will spoil. The air will not cause it to spoil, provided it is sterile, i. e., free from micro-organisms. A partly filled jar or fruit or vegetables will keep, provided the can, rubber, cover, and the air in the jar are sterile, and provided no micro-organisms can enter the can after it is sealed.

I cannot do better than to continue to quote Miss Hopkins. She goes on further to say: The reasons for canning food are (1) to increase the consumption of foods which supply much of the mineral matter and acids necessary to a healthy condition of the body; (2) to lend variety to the often monotonous winter diet; (3) to furnish nourishment in the form of starch and sugar; (4) to prevent waste of the season's fruits and vegetables; (5) to furnish the human body with a quantity of woody material or cellulose, which stimulates intestinal activity, thus preventing constipation and other digestive troubles. Since fresh and canned fruits and vegetables have come to form a part of the diet in winter as well as in summer, such diseases as scurvy (a disease resulting from a diet of salt meat, dried foods, etc) have almost entirely disappeared.

The foregoing gives our Farm and Home housewives, the assurance that canning of all vegetables can be successfully accomplished; it tells them exactly what causes foods to spoil, and how to prevent such spoiling; and finally Miss Hopkins gives our housewives good reasons for putting themselves to the trouble of canning fruits and vegetables for winter consumption.

In this article I will confine myself chiefly to methods of canning, and I call to your attention especially the latest and most successful—the so-called "cold-pack" and "hot-water bath" method, which is sure and safe, and leaves nothing to chance or "luck" being based on scientific correctness.

First, let us take up the matter of jars and rubbers. There are many different types of jars on the market—almost all of them good, provided they can be sealed absolutely air tight. Unless they can be so sealed, all your work of canning will have been in vain. Remember, this is the first and most important step in canning. Closely related to this matter of air-tight jars is the question of rubbers: You cannot expect to do successful canning with old rubbers, or cheap inelastic new ones. Only thick, soft and elastic rubbers should be used, and these should be new each season. But even new rubbers cannot always be relied upon; if they are of the cheap, stiff, hard and inelastic variety they may contain little or no real rubber. It pays to buy the best—they are the most economical in the end.

If you expect to do canning in quantities, and sell some of your products you will do best to procure an outfit such as Mr. Day describes in his "Canning Experience" article on another page of this issue of Farm and Home. You can then do your work in comfort outdoors, and use tin cans—cheaper and easier to handle and sell. I believe such outfits can be procured from $12 to $15 and up. But if you have to do your canning bit by bit in your own kitchen, and cannot possibly afford to buy any of the hot water or steam canning outfits, the next best thing you can do is to use your wash boiler, if it has a tight-fitting cover. Put a wooden rack in the bottom of the boiler—either one made of strips, or a perforated board, such as is shown in the illustration on this page. On this you can place the jars without fear of breakage. The boiler wants to be filled with jars, so they cannot tumble over, and it is best to place a strip of cotton around each, to prevent possible breakage by too close crowding.

So now, having your jars, rubbers and hot-water bath boiler ready, you are ready for the next step.

Use only good and fresh vegetables, and get them from the garden to the jars as quickly as possible. After cleaning and preparing they should first be "blanched," to eliminate possible objectionable acids and flavors, and to reduce bulk and set color. This "blanching" is done by putting the prepared vegetable in a cheesecloth sack and plunging it in boiling water, allowing it to boil for a few minutes (according to product) and then quickly dipping the sack in cold water for a second or two. After that it is ready to pack in the jars. Add sufficient water (if neccessary) and salt, adjust rubbers and tops, but do not seal tight. Place jars in boiler, put in enough water of about the same temperature as the jars, to within about an inch of the tops of jars, cover boiler tightly, and boil the required time, counting from the time it begins to boil. After that seal the cans, return to hot water bath, adding enough boiling water to cover cans several inches, cover boiler tightly, and finish the boiling or sterilizing. The time varies with various vegetables and fruits.

FOR SALE--Odd Lots FENCING

In the course of the year we find we accumulate a stock of odd-sized rolls of fence and special styles. The following is a partial list. We mail a complete list to any fence user applying.

Freight paid to Old Ontario stations on lots amounting to $10.00 or over. For delivery in Quebec and Maritime Provinces add 10%.

Order by lot number. Better give second choice. Will divide lots when desired.

FENCING

The following 3 lots are excess amounts of fences made on special orders, are first class and perfect in every particular. All No. 9 gauge, with stays 22 inches apart. All in 40-rod rolls.

LOT 1—300 rods, 8-bar, 32-inch hog fence, spacing 3-3-3½-4-5-7-7 inches at 45c per rod.

LOT 2—350 rods, 7-bar, 44-inch, space 5-5½-7-8½-9-9 at 39c per rod.

LOT 3—280 rods, 11-bar, 57-inch, spaced 2½-3-3½-4-5½-6½-7-7½-8½-9 at 62c per rod.

LAWN FENCES

Remnants of from 10 to 50 feet. Not painted. Will paint white or green for 2c foot additional.

LOT PEGOL STYLE
31.....30-inch, per foot $0.07 33.....42-inch, per foot $0.10
32.....36 " " " 0.09 34.....48 " " " 0.11

LOT ACME STYLE
37.....36-inch, per foot $0.10 38.....42-inch, per foot $0.1½
111..... 48 " " " 0.1½

LOT CLIMAX STYLE
42.....36-inch, per foot $0.11 44.....48-inch, per foot $0.14

ACME POULTRY NETTING

45.....24-inch, per 150-ft. roll $2.50

The above lots are on hand at our factory at Walkerville, and orders should be sent there direct in order to save time.

THE PAGE WIRE FENCE COMPANY LIMITED.

WALKERVILLE, ONTARIO

HORSE WITH A WOUND ON LEG

I have a horse, four years old, that has a sore on his hind leg in front of the joint, about as large as a five cent piece. It has been there for a year, healing up and breaking out alternately. B. M.

A surface wound of long standing that will not heal, canbe cured by cauterizing it with sulphuric acid, using just enough to moisten the wound. Do not put on any more than is required to wet the wound, for it will burn the leg if allowed to run down. Then oil with vaseline and bathe with a lotion made up as follows: Sulphate of zinc, 6 drachms, sugar of lead, 1 ounce, water one pint, all mixed together and well shaken before use. Apply lotion three times a day.

THE HORSE THAT CROWDS HIS MATE

A good method to overcome the habit of a horse that crowds its mate while plowing, is to take a piece of board about two inches wide, and about eight inches long, bore a three-quarter inch hole in the middle, put a wooden peg about three inches long into the hole, and tie the device to the back band of the harness of the opposite horse, with the pin towards the horse that crowds. After the horse gets poked in the side a few times, he will stop crowding. Another good method, if they crowd on the road when the snow is soft, is to change them around.

HORSE SPRAINED LEFT FORE LEG

I would like to have your advice about a horse that appeared lame the morning after having been led behind a buggy over snowy roads. I called in a vet and he said it was a sprain in the left front leg, and advised blistering, which was done. The lameness left him for a few days, but it is as bad again as ever. What would you advise me to apply. H. J. C.

Sprains are difficult to heal and there are so many ligaments found in the horse's leg that it would require a close examination to discover the one affected. Your vet's advice will be the best to take, and continue to apply his remedy of blistering continuously after it has successively healed up. The scabs you refer to are only the results of the blistering. The horse will be better resting while undergoing the cure.

WHY PAY FOR THE PURE BRED STALLION?

In reply to the question, "Why pay for the Pure Bred Stallion?", the June 1st issue of the Ottawa Valley Journal shows a profile picture of two geldings from the same mare. One horse was considerably smaller than the other. The smaller horse is five years old, the larger four years old.

The smaller was sired by a mongrel stallion and the larger by a registered stallion. They were sold at public auction, the smaller bringing $112, the larger $238. By using the mongrel $7 was saved in the service fee and $126 lost in the offspring. The owner uses a pure-bred stallion exclusively now—it pays.

WATER FOR CHICKS.

Little chicks as well as big should at all time have access to plenty of good fresh water. Where it is placed before them in a pan the old hen is apt to step on it and spill all the water. Then too the chicks will soon either drink it out or the sun will make it dry.

The plan that I have found satisfactory is not original with me, but I have used it a good many years with success. It consists in attaching two strips of tin or wire to the coop in such a way as to support a quart bottle upside down with the mouth of the bottle resting inside the pan and about a half inch from the bottom. Supported in this way the bottle is easily removable for filling. When filled and placed in position the water will feed down only as fast as the water in the pan is taken out. This makes a sort of fountain, and in the summer time the water will be kept fairly cool if the bottle is kept in the shade. P. H. R.

Fish Loaf.—2 c. cold flaked fish, 2 eggs, seasonings to taste, (curry pepper, Worcestershire sauce), 1 c. soft bread crumbs.

Add crumbs to fish, stir in eggs and seasonings. Place in greased mould and steam 30 min. Serve with sauce.

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A dandy for poultry and fruit, corn, hay and potatoes, money-making crops too: fruit and wood; cream collected at door; near neighbors, bordering river, only 1 3-4 miles to village; good 5-room house with running water; owner a mechanic moving to distant state makes low price $800. Travelling instructions to see it on page 4, "Our Spring Catalogue," copy mailed free.—E. A. STROUT FARM AGENCY, Dept. 612, 294 Washington St., Boston, Mass.

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SOIL FERTILITY—ITS ECONOMIC MAINTENACE AND INCREASE

(Continued from page 495)

tain combinations. It depends partly upon the condition of the soil and crop to be grown and partly upon the combination of fertilizing material and the amounts that we use. For instance, we might find a monetary profit from using 300 pounds, per acre, of a certain fertilizer, whereas an application of 500 pounds might result in a loss. This sounds paradoxical. A farmer sometimes reasons: if a certain amount is good, more is better. Not at all. That is not the way to look at it. The point is not so much increase in the yield as increasing the profit. We have to take into consideration the cost of the fertilizer; 300 pounds of a certain fertilizer will not cost as much as 500 pounds. Now, there might be an increase if 300 pounds were used, and there might be a greater increase if 500 pounds were applied. But the difference between the increase in yield from 300 pounds and that 500 pounds might not equal in value the difference in the price of 300 pounds and that of 500 pounds. There are many aspects to be considered. Every farmer who decides to use fertilizers should undertake some experimental work to ascertain the needs of his soil. Each experiment should have its check plot for the purpose of comparison.

We want our men to understand the requirements of their crops, to understand something in regard to the nature of their soils, and of fertilizing materials. We want them to understand fitst of all what rational farming means, namely, the return of a large proportion of the plant food which crops take from the soil, thus keeping up soil fertility without the direct purchase of plant food. There are only two means of doing this, one producing manure and its right use, and the other the growth of clovers. This I have already explained. Farmers should be taught that when they use fertilizers it must be as supplemental to all these rational means, rotation of crops, application of manure, proper cultivation of the soil, and so on. Then, we may hope, with a sufficiency of intelligence, to expect from the judicious use of fertilizers a profitable return.

ESSENTIAL ELEMENTS IN FERTILIZERS.

There are three elements which may be present in compounded fertilizers; when all three elements are present, we term that material a complete fertilizer. Our experiments have included trials with various forms of nitrogen, phosphoric acid, and potash, singly and in all combinations. Looking over the whole field, we conclude that in the larger number of instances where a profit has been obtained it has resulted from the application of a complete fertilizer; that is to say, from the use of a fertilizer that contained all three elements. There seem to be good reasons for such a result. My impression is that the chief function of the fertilizer is to raise the percentage of the very small amount of plant food that is immediately apailable for use. There is neper a pery large percentage of this immediately apailable plant food, and I think the function of the fertilizer is to increase it rather than to add to the total store of plant food in the soil, much of which is unapailable.

THE LAW OF MINIMUM.

We also know this fact, that the growth of crops is limited by the percentage of plant food which is present in minimum. If there is an excess of nitrogen, an excess of phosphoric acid, but only a small amount of potash, then the growth is in proportion, and is limited by that minimum percentage of potash which is present. I think that that is probably the chief reason why it is desirable and profitable in the majority of cases to apply a fertilizer which presents all three elements, nitrogen, phosphoric acid and potash. Of course there are cases in which soil conditions or special crop requirements call for nitrogen or for phosphoric acid or for potash. For such we recommend the application that seems desirable—perhaps superphosphate, perhaps nitrate of soda, and so on. But in the majority of instances we advise a complete fertilizer, for experience has taught us that from such there is greatest expectation of a profitable return.

MINIMUM EXPENDITURE FOR THE MAXIMUM PROFIT.

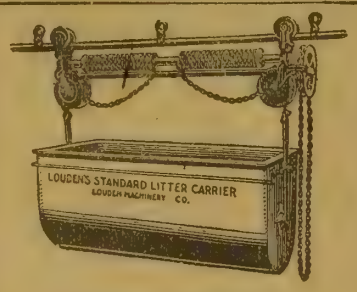
The next point is that the largest profits do not always result from the largest applications. That view is not generally held, especially in the provinces of New Brunswick and Nova Scotia, where in late years fertilizer agents and others have been advocating increasing the amounts of fertilizers, particularly for the potato crop. But, as I have said, it is not a question of yields: it is a question of profits. That is what we use fertilizer for, and we have obtained the best returns, dollar for dollar, from a moderate application of fertilizer. We might say that in the larger number of cases from five hundred pounds of complete fertilizer we have got a better monetary return than from an amount exceeding that, say from eight hundred or one thousand pounds. Some people apply as much as a ton to the acre. They have, of course, increased their yield but frequently not profitably, and that is what the fertilizer is for. That is one of our main arguments in connection with the application of fertilizer. We want the farmers to find out the largest yield from the smallest application; we want them to know what they are putting on the soil, and to be able to compare profits and yields. This knowledge is valuable for their future guidance.

DOMESTIC SOURCES OF POTASH, OTHER THAN MANURE.

Wood Ashes as a Potassic Fertilizer.

Wood ashes are essentially a potassic fertilizer, ashes of good quality, that is, dry, unmixed with sand, etc., and unleached, containing between 4 per cent and 6½ per cent potash, the average potash content being about 5½ per cent. This potash is in a soluble form and hence immediately available for crop use.

In addition to their potash they contain some 2 per cent phosphoric acid and from 20 to 30 per cent carbonate of lime, enhancing their fertilizing



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LOUDEN Litter Carrier

—is simple in construction, and easily operated. Carrier box is made of heavy galvanized steel, strongly reinforced with angle iron. Worm hoisting gear insures maximum speed and power. Track is of high carbon steel and is easily installed.

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The surface is GREY. We also make it with an extra wearing surface of crushed slate, RED and GREEN—all permanent colors.

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What I have suffered is a far better guide than any MAN'S experience gained second-hand.

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And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; for you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

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value and making them, in a sense, an all-round fertilizer for supplying the mineral elements required by crops. And, further, they correct acidity, a condition detrimental to the thrift of most farm crops.

From 25 to 50 bushels of wood ashes per acre will furnish from 60 to 120 pounds of potash, the latter an ample dressing for even very light soils. They are not needed on heavy clay loams; indeed their use on such may destroy good tilth and do more harm than good. Their application is best deferred to spring, broadcasting preferably on a quiet damp day on the ploughed land, and incorporating in with a thorough harrowing.

For clover, corn and mangels, they will be found very valuable. Especially are they beneficial for orcahrds and for grapes on sandy loams. For turnips, mixed with one-third to one-half their weight of bone meal, superphosphate or base slag, they have similarly proved advantageous. But indeed there are few crops on light and gravelly soils, as also on vegetable loams inclined to be sour, for which wood ashes cannot be employed with profit.

SEAWEED AS A POTASSIC FERTILIZER.

Seaweed occurs on both our Atlantic and Pacific coasts (more abundantly probably on the latter) and may be collected in large amounts at little expense on many sea beaches, where it is thrown up by storms in prodigious quantities. It can also be collected in boats from rocks and from floating masses not far from the shore. There are many varieties; some are quite small, others attain large proportions, but all are valuable, though naturally differing somewhat in composition.

Seaweed is essentially a potassic fertilizer, being specially rich in potash, but it also contains notable amounts of nitrogen and other elements of plant food, so that it might be termed a complete fertilizer.

ANALYSES OF SEAWEEDS COLLECTED ON THE ATLANTIC SEABOARD.

Fresh seaweed is undoubtedly a watery manure, and it is this fact, no doubt—the cartage being a more expensive feature—that limits its use to those living more or less close to the shore. A part of this unless water may be got rid of by piling the seaweed on the beach for a few days before hauling to the farm. But notwithstanding its large percentage of water, seaweed compares very favourably, weight for weight, with barnyard manure, and it has this additional value that it brings to the farm no weed seeds or insects or fungus pests.

The essentially potassic character of seaweeds is well brought out by the analyses given, but it will also be noted that they are especially high in nitrogen. The differences in composition between the varieties may in part be accounted for by the stage of growth or maturity at the time of collection, and in this connection it is interesting to note that, for several varieties, collections made during the winter have shown a higher potash content than samples taken in summer.

The manurial value of seaweed is greatly enhanced by its ready decomposition in the soil; it quickly decays, liberating its constituents in forms available for plant nutrition. It is quite unnecessary to compost it, though little loss would ensue if composting with muck or other vegetable matter which would absorb and hold the decomposition products is resorted to, provided the heap is not exposed to heavy leaching rains. The weathering of seaweed alone is a wasteful process. On the whole, the best plan is to apply the seaweed direct to the soil, with which it will readily become incorporated. It is essentially of the nature of a quick-acting forcing manure.

Seaweed can be employed for all classes of crops, though it will be found most useful for roots, vegetables and those with an abundance of foliage, since it is essentially a nitrogenous and potassic manure. It has given excellent results as a top dressing for grass lands, encouraging the growth of clover more particularly. Its composition suggests that if a more complete fertilizer is desired it should be supplemented by superphosphate, basic slag or bone meal. Seaweed gives its best returns on moderately light loans that are warm and moist, and its poorest on wet, ill-drained, or heavy clays.

Liberators of Potash.

There is no substitute for potash in agriculture. It cannot be replaced in the plant's economy by soda or any other compound. But there are certain substances that act as excitants or liberators of the locked-up, inert stores of potash in the soil, and thus may be considered as indirect potash fertilizers. We shall discuss briefly two of these: gypsum and nitrate of soda.

Gypsum, commonly known in the ground form as land plaster, is a naturally occurring sulphate of lime. Although supplying lime it is of no value for the correction of acidity (sourness) of soils, for which purpose lime or ground limestone must be employed. But the furnishing of lime does not constitute its chief manurial value. It has the property of acting

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This scientific oven should place the NEW PERFECTION OIL COOK STOVE in your kitchen. The New Perfection takes up little room and doesn't overheat the kitchen. The Long Blue Chimney makes the flame "stay put" with no smoke.

With Royalite Coal Oil the New Perfection will cook your meal for from 5 to 10 cents.

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Here at last is the perfect combination of boot and moccasin. The general shape is that of a moccasin, but the boot is built on a last, with a long solid counter to hold up the heel. It has all the easy foot fitting comfort of a moccasin, and, at the same time, it will stand right up and keep its shape with any boot.

The new chromoil leather used is simply wonderful. The chromoil tanning process produces a through-and-through, instead of a surface, waterproof, and a leather much stronger and more durable than any other. These new farm boots will not crack and shrivel when dried by the fire. They remain pliable in weather that freezes other oil-tans. They outwear any other boot of their kind on the market, and give solid comfort and satisfaction every day.

If you have any trouble getting these new Palmer-McLellan Chromoil Tanned Farm boots locally, mail us the price and we will ship you a pair postpaid.

Men's	Sizes	6	inches	high,	per	pair	$4.50
"	"	10	"	"	"	"	5.00
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Write for free booklet describing Chromoil Tanned Leather and its merits.

on the insoluble potassic compounds of the soil, setting free for plant use a part of their potash. This is its most important function, and it is this property that has made it specially beneficial as a top dressing for clover, a crop that particularly reponds to potash. The application of land plaster is usually from 300 to 600 pounds per acre, which may be broadcasted on the prepared land and horrowed in.

Large deposits of gypsum occur in New Brunswick, Nova Scotia and Ontario, and as it is readily quarried and is comparatively soft material, land plaster may be purchased cheaply —in many districts at a lower price than ground limestone.

Users of superphosphate (acid phosphate) will have no necessity to apply land plaster, since this phosphatic fertilizer contains sulphate of lime as a necessary constituent.

Nitrate of soda is a well known, highly efficient nitrogenous fertilizer. It has been shown that crops "feeding upon a neutral salt like nitrate of soda, take up more of the nitric acid than of the soda." This soda acts chemically upon the stores of insoluble potash compounds, setting free a certain amount of potash, and thus rendering it unnecessary, in a certain measure, to directly apply a potassic fertilizer. It is this liberation of soda within the soil that is the cause of the deleterious action on the tilth or texture of heavy clay loams when large and frequently repeated applications of nitrate of soda are made, for the soda has the property of defiocculating clays, making them sticky when wet and refractory when dry. We should not advise any special application of nitrate of soda to make up for the lack of a potassic fertilizer, but it is obvious from what has been stated that its use to a certain degree obviates the necessity of such an application, especially on heavy loams.

CONCLUSION.

In concluding this review of the chief means whereby we may increase the soils productiveness, may I say that we should point out on all occasions to our farmers the various means and agencies provided by the governments—Federal and Provincial —for the assistance of the man on the land by information, by advice and by demonstration. There is no country better provided than Canada in this respect. There is a vast amount of educational literature to be obtained for the asking and inquires relating to agricultural matters are answered at a number of our educational institutions. Every farmer ought to be in touch with one or other of the Farms and Stations of the Dominion Experimental Farms System. If there is an Illustration or Demonstration Station in his district, he should visit it, for there he will find tried out in a very practical way the more important problems affecting the farming of the neighbourhood. Information by printed page or letter may be very valuable, but information gained by actual observation, as at an Experimental Farm, Illustration or Demonstration Station, will, in most cases, be more immediately effective. It has been at a number of these institutions that the largest average yields in Canada have been obtained; these heavy and remunerative yields are the direct result of the application of economic means for the increase of soil productiveness. Let us encourage and advise our farmers to avail themselves of their opportunities, and to adopt, as far as may be practicable, those methods which science and practice have alike shown to be rational and profitable.

COWS THAT HAVE BEEN WEIGHED IN THE BALANCE AND ARE FOUND WANTING

Taking it for granted that we have been putting out cows through the sifting process, so that we have learned which of them are producing milk from which de derive a profit and which do not, the question now is, "What shall we do with the unprofitable cows, the cows that do not pan out well?"

First, let us say that there will always be some among the number which, under the treatment ordinarily given dairy cows, do not show up well, that might if they were handled in a little different way. One thing which handicaps many dairy farmers is the tendency to look upon cows as if they were all run in the same mold, so that the care, feeding and treatment which we give to one will succeed when applied to the rest.

There is no greater mistake than this. Every cow has a distinct personality. The characteristics of each stand out by themselves. Every cow has a disposition all of her own. And every member of the herd must be studied, fed and otherwise cared for as if there were no others in the stable.

To show still more clearly how this works out, you may take a cow that comes quite near to the line of profitable production and by making a study of her characteristics, disposition and ability to turn feed into milk, handle her so that she will in a very short time come over on the side of the money makers. So little a thing as congenial surroundings and kind treatment from those who have the cow in hand will often work wonders in the milk pail.

The cow which is abused by other cattle in the herd, is afraid of her life and all the time scurrying for some place of safety is not going to be as profitable a cow as if she were holding an assured place among her companions in the yard. Take that cow out, make her feel at ease in her mind, or whatever stands for her mind, and it will not be long before she will rebound in a most surprising way. Instead of being a drag on the dairy, she will become a paying member.

Another cow may need a little different feeding than is given the rest. Before turning off any cow that comes up near the margin of profit, it is well to make experiments along this line. A change of feed, or more of some one kind, may be all that is needed to bring some cows up to a paying basis. This all takes time and patience, it is true. But it is time well spent and patience that will surely have its reward. Cows are high in price and difficult to get, and we ought to hold on to every one we possibly can.

But after we have done all this, so that we are satisfied that we still have some cows that are not doing business enough to pay expenses, the question still persists: "What shall we do with these cows?" Because men are different in their temperament, and on account of the varying dispositions of cows, it is not impossible that a change of masters may save some of these discarded cows. You have seen that tried out; so have I.

More than one cow which had a fine record with one owner went bad upon changing hands. Men who buy these cows think when they find their purchase slipping down that they

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such as the close fitting bearings and adjustments of a hand separator, demands a special lubricant in order to work efficiently.

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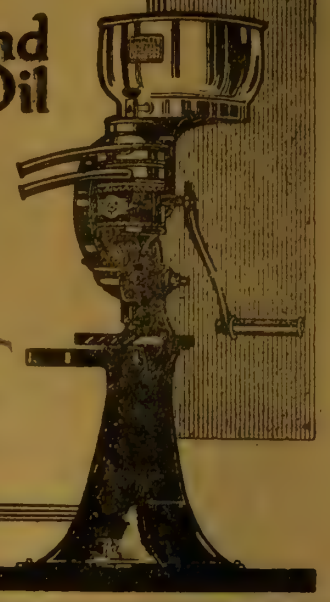

is especially manufactured for this purpose. It is absolutely free from all impurities, cannot gum, and besides giving superior lubrication where it is needed, protects the separator from seam rust and corrosion.

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have been deceived, and actually become enemies of the one who sold them their cows with such a high recommend. All the time it may not be the fault of the seller or of the cow, either. It may be something about the makeup of the new master or of the conditions in the yard of stable to which the cow is newly introduced.

The other way around is just as true. A cow that has not been doing well in your herd, may, under the care of your neighbor, a man of different turn of mind, prove a very profitable cow. This is no particular reflection upon you, for it is not easy for any of us to change the disposition naturally given us; but for all that, the best thing we can do is to be fair and honest about it, tell the neighbor why we are offering the cow for sale, perhaps at a lower price than she would bring under other circumstances, and let him see what he can do with her. Many good cows have been developed from the castoff members of the herd.

Then, while all this has been done and some positively unprofitable cows remain, the only thing is to fatten them up and let them go for beef. There is always the temptation to sell these robber cows to go out of the country for dairy purposes, hoping that there will be no comeback on the part of the stranger who purchases them. Or a man nearer home may need a few to bring his stock up to the required size.

You may lead your friend to think that he is getting a good cow—for the money—but you cannot afford to do it; no man can. Better by far, give these cows a few hundred pounds of good feed and let them go for beef. Conscience violated never can be stilled with a few dollars.

But whatever we do, the best way is to get our herds on a paying basis. It may cost something to do it, but it is economy in the long run.

E. L. VINCENT.

FLIES IN THE STABLE

The pesky stable flies are a great source of annoyance to the cows and the cause of considerable loss of milk and vitality. They are seldom killed by the lash of the cow's switch and when disturbed they rise in a mass for two or three feet and then settle down on another part of the cow's body. As they are not attracted by bait it is not easy to catch or kill them.

One bright dairymaid of observing mind saw their peculiar habit of rising and settling in a bunch, so she pinned some sticky fly paper to a sack and laid it over the cow's shoulder. In this way she soon trapped most of the flies. By doing this early in the summer you will prevent their breeding and, as they do not travel expect on an animal, you will be rid of them for the season.

Another effective way to get rid of the stable fly is to catch them in a net. Make it of a fine quality of mosquito netting at least 18 inches long. On the end of a short handle tie a wire loop 15 to 18 inches in diameter and fasten the net to the loop. As the flies rise in a cloud you can catch many of them with a swift scoop of the net. In a few minutes you can get most of the flies which annoy the cows.

FEEDING DAIRY CALVES

In the nation-wide movement for an increased food supply, which has swept the country during the past three years, the livestock man has been urged to increase production, and to save his calves.

Prof. Chas. I. Bray, of the Colorado Agricultural College, has prepared the following on the feeding of calves for the benefit of those who may desire information upon the subject:

"Whole milk at 20 cents or more per gallon is too expensive to feed to calves, and the butterfat can be economically replaced by grain feed. Skim milk contains all the feed nutrients of the whole milk except the fat, which is not needed for the dairy calf after two weeks old. Corn meal, ground oats, or linseed meal may be used to advantage as supplementary feeds.

"Milk fd to ssttttaaoooo0rc

"Milk fed to calves should be warm, sweet and clean, and fed at regular mealtimes in uniform amount and in clean, scalded buckets. Occasionally very rich milk will be found to disagree with the calf. In this case the milk may be diluted with clean, warm skim milk r milk having a comparative low fat content may be substituted. A dairy calf of the smaller breeds should get about one gallon of milk per day, divided into three feeds daily for the first ten days and two daily feeds afterwards. Calves of the larger breeds will take more. After two weeks old, sweet, warm skim milk may gradually be substituted for the whole milk and the quantity gradually increased to one and one-half gallons per day, and to two or two and one-half gallons after two and one-half months old. Large calves may be given more. To check scouring in calves, reduce the feed and give one or two teaspoonfuls of dried blood in the milk daily."

Grass Stain on Colored Goods.

Wash stain out if fresh or use a paste of molasses and soda. Spread paste on stain and let stand for several hours. Wash in usual way.

The Testing Time!

Russia Prospers

During the first eight months of Prohibition in Russia the Savings Banks reports show savings increased 5,000 per cent. (net).

WHEN the test of the world-conflagration called for every ounce of strength in every available man to stem the tide of destruction, one of John Barleycorn's greatest friends, Russia, was the first to abolish the Traffic because it could not meet the test. In good time, when her hour of test arrived, New Brunswick banished the great Drink curse let us hope forever!

After the war, in his turn, John Barleycorn is going to put New Brunswick to the test. Prohibition may again be voted upon after the war.

Every bit of lax enforcement and indifference is just so much ammunition for him to use against us. How does Prohibition meet the test?

Russia—

Some idea of the enormous effect of Prohibition is afforded by the wonderful example of Russia. In spite of the fact that millions of producers are in the army the savings of the people enormously increased. In 1912 and 1913 they were saving, per year, about $20,000,000. In the first five months under Prohibition they saved $60,000,000. In 1915 the banks took in $265,000,000. For the first half of 1916, the Russian people saved $300,000,000!

The Dakotas—

Town and city population in South Dakota under License increased 168 per cent. in 20 years. In the Prohibition state of North Dakota it increased 494 per cent.!

In "dry" North Dakota, for the year 1909, 2,789 men produced $19,137,000 worth of manufactured goods. In the "wet" Dakota it required no less than 3,602—***813 more men***—to produce only $17,870,000 worth of manufactured goods, or $1,267,000 ***less!***

In 1890 commitments to Insane Asylums in "dry" North Dakota were 40 persons per 100,000 ***more*** than South Dakota. After twenty years of Prohibition they were ***forty less!*** And the Prohibition State began the period with only about half the population of its neighbor!

South Dakota has since adopted Prohibition.

Help to Enforce Prohibition

Permanent Prohibition in New Brunswick demands strict enforcement between now and the day when Prohibition may again be voted upon after the war. The whole task of enforcement must not be left to the officers of the law alone. Everyone should help. Eternal vigilance is the watchword.

Dominion Temperance Alliance

NEW BRUNSWICK BRANCH

DONALD FRASER, President, Plaster Rock, N.B.

REV. THOS. MARSHALL, Vice-President, Fredericton, N.B.

W. G. CLARK, Treasurer, Fredericton, N.B.

REV. H. C. ARCHER, Executive Secretary, Fredericton, N.B.

21

We're Out of Sugar Again!

Ever start an afternoon to be devoted to cooking, planning toothsome goodies for the coming guests perhaps, only to find that the sugar container is empty?

Don't let that happen with you. Keep on hand at all times a plentiful supply of that superlative product

ROYAL ACADIA SUGAR

"Every Grain Pure Cane"

You Should Buy by the 100 lb. Bag

But, aside from the matter of convenience, there is economy and the 100 pound bag purchase best serves that end. Try it and see. Royal Acadia Sugar may also be obtained in 2 and 5 pound cartons, 10, 20, and 100 pound bags, half barrels and barrels.

ACADIA SUGAR REFINING CO., Ltd.

Halifax, N.S. ROYAL ACADIA SUGAR Canada

THE DAIRY COW

(Continued from page 499)

DAIRY COW RECORDS PAY.

In order to make profits from any cows they must be good cows; that is, they must be healthy, of good temperament, of the dairy type, good size, of great capacity for consuming feed, regularly heavy feeders and above all heavy producers.

It is impossible to tell the profitable from the unprofitable cows in the herd unless you have individual records of the milk and fat produced.

The profitable dairy cow must give over 5,000 pounds of milk testing 3.5 per cent fat, each year. To know the value of a cow her total annual yield of milk must be known. The only way to know this is to keep a record of her daily milk yield.

Such records are being kept by hundreds of successful dairymen today. Many of these men attribute their success to the keeping of these records. Why not give the thing a trial if you are a dairyman? It will increase your milk product. It will lighten your labour since your interest will be increased in your work and "interest lightens labour." It will show you the unprofitable cow, the "boarder." You cannot get rid of her too quickly.

For weighing the milk a spring balance may be secured for from one and a half to four and a half dollars. If your local dealer cannot supply you write the Animal Husbandry Division, Experimental Farm, Ottawa, for particulars. A small platform scale is fairly convenient, but the spring balance is preferable.

Many farmers keep record of the amount of food fed to individual cows. If you would like to do so, sample forms will be sent free on making application to the above address.

RECOMMENDED VARIETIES OF FIELD CROPS

By F. S. Browne, B.S.A., Assistant Agrostologist.

Importance of Roots to the Stock Feeder

Field roots are relished by every class of live stock, and numerous experiments have shown that, the best results in feeding are often unattainable if they are not included in the ration. In Denmark and Sweden, the present recognized importance of the bacon and dairy industries is due in no small measure to the liberal feeding of field roots to hogs and dairy cattle.

In a great many parts of Canada ensilage corn can be profitably grown, and, in such sections it is, at present, recognized as the most economical crop to grow as forage for stock. In spite of this, however, field roots, on account of their peculiar value in adding palatability to the ration, are still grown in even the best ensilage corn sections of the country. Further, the root crop is a safe venture in many parts of the Dominion where the climatic conditions are such as to render the results with corn just a little too uncertain.

Variety Testing

Ever since the establishmer . of the Dominion Experimental Farms , in 1886, one branch of the work has been the conducting of variety tests with the various varieties of field roots. the experience gained bu such experiments, has shown that reliable information, as to the merits of a certain variety, can be obtained only after that variety has been tested for a number of years. Accordingly only varieties that have shown superiority after repeated tests are recommended below.

Mangels.

Varieties Recommended

Giant Yellow Intermediate is a high yielding variety of good feeding value. The root is ntermediate in shape, smooth and yellowish orange in colour. It has a small top, is easy to handle and keeps well. Generally speaking, the variety can be recommended for any part of Canada where mangel growing is profitable.

Danish Sludstrup is a yellow, intermediate variety very simil.r to Giant Yellow Intermediate. It can be recommended for British Columbia and Eastern Canada.

Mammoth Long Red or Gate Post is a long red variety nearly cylindrical in shape with a strong vigorous top. The roots, though large, are usually rough and prongy, thus making the crop somewhat difficult to handle. It is, therefore, somewhat in disfavour in certain sections. Neverth less, it is a splendid yielding variety and the roots are of excellent feeding value and keeping quality.

This variety can be depended upon throughout Canada generally.

Giant Half Sugar White is a long greenish white variety, somewhat rough and irregular in shape with a heavy top. On good soil it will produce a good crop of excellent feeding value. The roots keep well and are of particular relish to stock. The variety has done fairly well throughout Canada, but seems best adapted for British Columbia, Manitoba, Ontario, Quebec and Prince Edward Island.

Giant Yellow Globe is a very heavy yielding variety, but of comparatively low feeding value. The roots are uniformly round in shape and light yellow in colour. The tops are small and the crop is easy to handle. The

PEERLESS PERFECTION

The Fence For Real Protection

gives life time service. Is made of the best Open Hearth steel fence wire, all impurities burned out, all the strength and toughness left in. Makes the fence elastic and springy. Will not snap or break under sudden shocks or quick atmospheric changes. Galvanized to prevent rust and the coating will not flake, peel or chip off. Can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences. Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing. Agents nearly everywhere. Agents wanted in unassigned territory.

PEERLESS FENCE

THE BANWELL-HOXIE WIRE FENCE CO., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

Get a Frost & Wood Mower

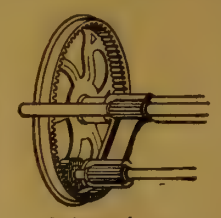
Hay-time is money time on the farm

Use a cranky, wasteful out-of-date mower and you may throw away a whole season's hay. These are the days for efficiency. Make a wise expenditure for a Frost & Wood Mower, and you save in crop, in horse flesh, in time, in money.

Frost & Wood Mower Cuts Any Crop

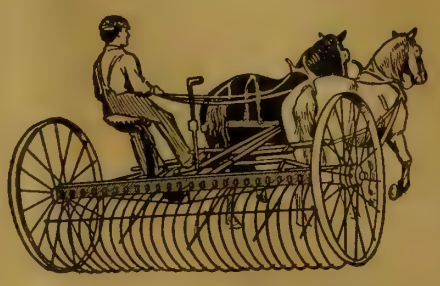
IT WON'T FAIL YOU.—It's a light draft machine. The splendid roller bearings and easily controlled levers eliminate friction and make it easy for a boy or girl to use. Immensely strong, with heavy brass bushings where wear is greatest. Heavy high-carbon steel cutter bar can be set in a second at any angle. Knife guards are high-grade tough malleable iron. The F. & W. is a splendid, serviceable mower, always ready for hard work, even with "green" help.

Space prevents reference to the many splendid features of the Frost & Wood Mower, but the "Internal driving gear", as shown here must be mentioned. The driving gears are meshed on the inside of the main drive —they travel in the same direction—there is no tendency to fly apart, or to snap the cogs—no loosening or rattling of parts and connections, and the knives begin to cut at the first step of the horses. This means quicker work and longer life to the machine.



Internal gear drive means big power

Frost & Wood Rakes



Built for Hard Quick Work

Because a Rake looks a simple machine to make don't put up with cheap, inferior workmanship—get a F. & W. and save real money. Teeth of special quality, tempered steel, and arranged in convenient sections of two or three. Self-dumping, discharging load automatically at light pressure on foot lever. Made of steel, amply strong, and clean working, the F. & W. Rake gives a lifetime of splendid service.

Our nearest agent is ready to give you full particulars and advice on this or any implement, or write to-day to us or our nearest branch for illustrated catalogue.

FROST & WOOD CO., Limited,

TRURO ST. JOHN, N. B. CHARLOTTETOWN

variety produces a good crop in most any part of Canada, but seems best adapted for the prairie provinces.

Swede Turnips

Good Luck is a high yielding, purple topped variety of good feeding value. The roots are oval in shape and usually uniform. It is an easy variety to handle and the keeping quality is excellent. The variety can be recommended for Canada generally.

Perfection is a smooth, globe-shaped variety of the purple top class. The roots are of good feeding value, keep well and are easy to handle. The variety yields well in any part of Canada.

Hall's Westbury is a purple top variety that has been grown throughout Canada for a number of years. The roots are oval-shaped and usually large. On good soil the variety yields well, and the feeding value of the crop is excellent. The variety can be recommended for any part of Canada.

Canadian Gen is a very smooth, uniform variety of the purple top class. The roots are globe shaped and medium sized. In wet seasons, the individual roots often produce extremely long necks, which make the crop unsightly and decrease its value. Usually, however, the yield is high and the feeding value fair. The variety can be recommended for Eastern Canada.

Hartley's Bronze Top is one of the best varieties of the bronze top class. It usually gives a good yield, and the crop is of first class feeding value. The roots are medium in size and somewhat near tankard in shape. Although somewhat un-uniform the roots are usually smooth and easy to handle. The variety can be recommended for Eastern Canada.

Kangaroo is a popular variety in the Maritime Provinces. The roots are tankard-shaped and sometimes quite rough and hard to handle, but keep well. The yield is usually good and the feeding value excellent. The variety may be recommended for the Maritime Provinces.

Field Carrots

Varieties Recommended.

Improved Short White is a half long, white variety, sometimes rough and un-uniform in type, but of excellent keeping quality and feeding value. It can be recommended for any part of Canada.

Mammoth White Intermediate is very similar to Improved Short White, but it is not adapted to such a wide range of conditions. It can be recommended for the Maritime Provinces, Southern Alberta, when grown under irrigation, and British Columbia.

White Belgian is a large, white intermediate variety that usually yields well. The feeding value is, however, only fair, and in wet weather the roots are inclined to crack. For this reason the variety can be recommended for the Prairie Provinces only.

Ontario Champion is a long large white variety, un-uniform in shape, although the roots are usually smooth. Owing to its length, it is sometimes broken in handling. It is, however, a heavy yielding variety and can be recommended for Ontario and Quebec.

Danish Champion is a light yellow intermediate variety. The roots are usually smooth, un-uniform and of medium size. The variety yields well and the crop is of high feeding value. The past four years' results would indicate that the variety can be recommended for Eastern Canada.

Quantities to Sow

With good seed, of strong vitality, the following quantities may be recommended per acre:—

Mangels: 7 to 8 pounds.
Turnips: 2 to 3 pounds.
Carrots: 3 to 4 pounds.

Time to Sow

Mangels, sow as soon as the ground can be conveniently worked in the spring.

New Field Husbandry Building, Ontario Agricultural College, Guelph.
Barns at the Ontario Agricultural College Guelph.

FARMERS !

Every Building on Your Farm Needs Good Paint.

Paint protects. Paint wards off rot and decay. Paint is a property improvement that increases the value of your whole place. Paint is an investment that pays a big profit in prosperous appearance and long life to the buildings.

MARTIN-SENOUR

"100% PURE" PAINT

(Made in Canada)

is saving the farmers of Canada hundreds of thousands of dollars by protecting their homes and barns from wear and weather. This pure, reliable paint spreads easily and is the cheapest in the end, because it covers 900 square feet of surface per gallon and lasts far longer than the cheap prepared paint or hand-mixed lead and oil.

Write for "Farmer's Color Set" and "Town and Country Homes". Just what you'll need in planning your painting. Mailed free and postpaid. 168

The MARTIN-SENOUR Co.
LIMITED
GREENSHIELDS AVENUE, • • MONTREAL.

Turnips, may be sown comparatively late; two or three weeks after mangels.

Carrots, sow about the same time or a little later than mangels.

How to Sow

Field roots are a hoed crop and should preferably follow hay or pasture. The seed should be sown in rows 25 to 30 inches apart. On land free from weeds, that is inclined to dry out, or in districts where rainfall is light, seeding may be done on the flat. Under ordinary conditions, however, it is advisable to sow in shallow drills which have been run up, with the drill plough, and flattened to about one-thrd their original height with the roller.

Hand seeders are usually the most satisfactory, and one with a light roller attached, so that the soil is pressed firmly around the seed, should be used.

WOOL PRIZES AT MARITIME EXHIBITION

The attention of sheepman in the Maritime Provinces is called to the prizes offered for wool in the fleece at the Nova Scotia Exhibition, Halifax, and at the Charlottetown, P. E. I. Exhibition. The amount offered in prizes for fleece wool at each of these exhibitions is fifty dollars, and the prizes are well worth the consideration of our wool growers, in addition to making a name and standard for the wool of these Provinces. There are three classes in which to enter the fool, and these classes pretty well cover the grades of wool grown here. The first class covers the medium wools, such as that of the Shropshire. The second class covers a little coarser wools, and longer in length of the staple, such as the Oxford, Hampshire, etc., while the third class takes in the coarse and lustre wools, such as those of the Leicester, Cetswold and Lincoln.

It is hoped that the farmers will at this time retain two or three good fleeces, in order that a good showing of Maritime Provnce wools may be on exhibit at these exhibitions this fall.

G. E. O'BRIEN.

MARE THAT HAS TREMBLING FITS

While working a three year old mare, she suddenly commenced to lift her legs high, then staggered while walking, and also took violent fits of trembling. In half an hour she was as well as ever. What was the cause of the trouble and its remedy? J. M.

The symptoms you describe appear to be due to megrims, or stomach staggers. Anything that interferes with the flow of blood to the brain, from indigestion, from a tight collar, or from a tumor pressing on the brain, will produce staggers in horses. Give your mare a physic drench consisting of bitter aloes, 8 to 10 drams, common soda 1 tablespoonful. Dissolve and mix in warm water, and if the staggers come from her stomach it will relieve her; she may never have another attack. Examine and see if it was caused from a tight collar. When the medicine has worked off, a teaspoonful of bromide of potassium in her grain feed twice a day for a week or so, will act as a tonic to her nerves.

COSSAR STOCK FARM,
Lower Gagetown, N. B.

Importers and Breeders, Clydesdales, Dairy Shorthorns and Border Leicester Sheep. A number of choicely bred animals for sale.

G. C. COSSAR, Prop. **J. MEIKLEJOHN, Agent.**

Elmhurst Stock Farm!
Clydesdale Horses, Hereford Cattle, Leicester Sheep.

We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

William O'Brien & Sons, Windsor, N. S.

SHORTHORN CATTLE

Our present offering is a number of of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

J. E. HETHERINGTON
Codys, N. B.

Guernseys!

For Sale—Registered stock. Male or female.

T. D. BLAIKIE
Great Village, N.S.

Registered Stock for Sale

Guernsey and Ayrshires Bulls, ranging from nine months to eighteen months old.

Guernsey and Ayrshire New Milch Cows. Also Young Calves of both breeds. Last but not least, Registered Shropshire Ram Lambs. The above will be shown at Shubenacadie District Exhibition.

John McDonald & Son
Shubenacadie, N. S. **Bloomfield Farm**

FOR SALE
R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

BLUEBELL VIEW FARM

offers for sale one pure bred Holstein Bull Calf, 2 months old, whose grand sire was three times grand champion at Toronto and his dam has made over 12,000 lbs. milk in 10 months and tested 3 1-2 fat. He is well marked and right in every way. Price $40.00 if taken at once. We also have pure bred Berkshire Pigs for sale.

WALTER PAYNE,
Lake Edward, - - N. B.

Setting Eggs for Sale!

From Brahmas Light, Brahmas Dark, Cochins, Patridge, Silver Grey Dorkings, Houdans, S. C. Buff Leghorns, S. C. Black Leghorns.

We won on the above varieties at the Maritime Winter Fair, which was held at Moncton, and at the shows at Fredericton and Halifax. We won 60 firsts, 36 seconds and 10 thirds. All these winners are in our breeding pens of which we have a limited number of eggs for $3.00 per 15 or $5.00 per 30. We also guarantee eight live chicks from each setting and if not we will replace all unfertile eggs free of charge.

DAY BROS.,
129 West Lane, Moncton, N. B.

EGGS ALL THE YEAR ROUND

Not a day without eggs in the last four years. This is the record of our bred-to-lay Barred Rocks, Rhode Island Reds and White Wyandottes. Try a setting, one dollar each. Am now booking orders for Chester White pigs. Also offering a few good Holsteins.

Day old chicks, above varieties, 20 cents each during April, 15 cents each after April.

N. W. EVELEIGH,
"The Orchard" Sussex, N. B.

Lawndale Stock Farm
Jerseys and Shorthorns

At present we have no offering in Jerseys, having sold short, but probably will in the late fall. Write to us early.

In Shorthorns We Offer:

One Red Bull Calf, dropped Oct. 17th, 1916. Very large and handsome. Sired by a champion of his class at Halifax, 1915, out of a heavy milking dam.

One Red Bull Calf, dropped March 17th, 1917. Same sire as above and out of another good milking dam.

Both these calves are in show condition. Write for information.

I. M. LOVITT, M. D.,
Yarmouth North, - Nova Scotia

GUERNSEY BULLS!

I offer for immediate sale, the Gurnsey Bull Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA.

Applications for registry, transfer and membership, as well as requests for blank forms and all information regarding The Farmers Most Profitable Cow should be sent to the Secretary of the Association

W. A. CLEMONS, St. George, Ont.

Maple Green Farm Holsteins

Just now we are offering some fresh calved cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Mercedes," No. 11727, the sire of our 26.54 lb. Jr. 3 year old and who so far has not a tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particulars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

McINTYRE BROS.,
Sussex - - - - - N. B.

EGGS FOR HATCHING!

From two grand pens of S. C. R. I. Reds and one pen of Rose Comb R. I. Reds. Price $3.00 per 15 eggs.

Write for particulars to

W. H. HENRY,
Shubenacadie, N. S.

FOR SALE!

Several heavy Draft Horses, including a few good Mares for breeding. Also eight Horses and young Pigs. We are offering a very fine Bull, 16 months old, color pure white.

L. M. ANDERSON,
Sackville, - - N. B.

SPRINGVALE HERD

Of choicely bred Ayrshires, Dairy Test Winners, herd numbers 30 head. Before buying, come and inspect our herd and get prices.

FRED S. BLACK & SONS
AMHERST, N. S.

Advertise in the Maritime Farmer

SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn, brother of the noted Jean Armour.

J. FRANK ROACH, Proprietor,
Phone 111. - - - - Sussex, N. B.

BELLEVUE STOCK FARM
Shorthorn Cattle and Shropshire Sheep

Our Shorthorns have wintered well and we have a fine bunch of Calves for sale at any age required. Are booking orders for Rams for fall delivery. Our Lambs weighed from 100 to 115 lbs. last October and the present crop have come strong and extra good type.

C. A. ARCHIBALD, - Clifton, N. S.

NETHERLAND FARM, Hammond River, N. B.
HOLSTEIN CATTLE AND YORKSHIRE SWINE

WM. S. HARDING, PROP.

We are all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Foforit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

C. C. H. EATON, - - - - CANARD, N. S

COBEQUID FARM HOLSTEINS

For sale at present, one bull 20 months old; two bulls 10 months old, almost fit for service. Several bull ca lves that are dandies and as well bred as you could wish. Also can spare a few heifer calves from one to six months old. Inspection invited.

S. DICKIE & SON, - Central Onslow, N. S.

BULL'S CREEK FARM
R. O. M. HOLSTEINS

Present offering:—Bull Calf, mon th old. Weighed 112 lbs. at birth. Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seve n days. This calf is a splendid individual and fit to head any herd w hen mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, —WOODSTOCK. N. B.

WISH-TON-WISH STOCK FARM
Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick

Willow Farm Ayrshires

I have for sale three extra good young Bulls from prize winning stock and R. O. P. Dams with large records. Ages 9 mos., 12 mos. and 15 mos. Sired by Flavius of Ottawa. All are in prime condition.

P. S.—I also have one fine Carriage Horse for sale, 5 years old, light bay color, stands 16 1-2 hands high and weighs about 1100 lbs. Sired by Canadian Prince and dam is a Thoroughbred. He has good style and easy action and will road 10 to 12 miles per hour.

Apply to ARTHUR S. DENNIS,
"WILLOW FARM, - - - STEWIACKE, N. S.

FARMS FOR SALE

Send for FREE Catalogue; with descriptions and prices of over 1000 farms in Nova Scotia.

McCALLUMS LIMITED,
"The Real Estate Men"
Truro, - Nova Scotia

FOR SALE

Two pure bred Clydesdale Stallions, 7 and 2 years old. Shorthorn Bull, 5 years old, imported from Ontario. Write us for full particulars.

MORRIS SCOVIL & SONS,
Meadowlands, Gagetown, N. B.

Chester White Pigs For Sale

Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

W. A. ERB, SUSSEX, N. B.

Guaranteed Eggs from Buff Orpingtons

Prize winners Halifax and Charlottetown. $1.25 per setting.

G. CARTER,
33 Jubilee Road, HALIFAX, N. S.

FOR SALE

One dozen Bronze turkey eggs, $4.00. Best Buttercup eggs, $2.00 setting fifteen. Blue Orpingtons, $3.00 fifteen. Pair of fine Grey African geese, ready to lay, $12 (twelve dollars).

SARAH E. MOSES SMITH
Woodward's Cove - - N. B.

HOUDANS

The Favorite French Fowl. Large white eggs and lots of them. A wealth of white breast meat. Combs and wattles protected by heavy crest and beard. Eggs $1.50 per 15. Cash with order.

W. J. M. MacLEOD, Sussex, N. B

THE MARITIME FARMER
AND
CO-OPERATIVE DAIRYMAN

TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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Shearing and Dipping the Farm Flock

The shearing season is now over for the most part and the wool is being sent to market. The extremely cold weather experienced in the Maritime Provinces during the month of May badly handicapped the work. Sheep that were shorn early in the season suffered a great deal from the chilly winds and damp weather. They could scarcely keep warm even in the sheds, and not a few of the weaklings succumbed. Another handicap when proper shearing weather arrived, was the scarcity of shearers, many of the men who used to carry on custom work along this line, are in the trenches. Some sheep owners have their fleeces ready in time to take advantage of sales through Co-operative Wool Growers Associations.

The ruling high prices prove of unusual interest to the growers and every half-pound of wool was carefully taken from the sheep's back, and those who sell cooperatively are sure to realize top notch prices. Reports from Quebec show that wool co-operatively sold bought as high as 56½ cents for medium combing, unwashed. Other prices were as follows:—Low medium combing, 55½ cents per pound. Coarse, 53½; black, and rejects, 45 cents.

A sheep that will shear from 8 to 9 pounds of wool is realizing for the owner from $3.00 to $5.00 at the very least, thus making herself a paying proposition from that standpoint alone. She is a valuable asset, hence it is only right that we handle what she produces as it should be handled.

Under our eastern climatic conditions, the proper time of shearing can be placed roughly from the middle of May to the first of June, depending upon the prevailing weather. The one thing to guard against is the contraction of colds amongst the flock due to damp cold weather following the removal of the natural covering. There is very little chance of such weather after the end of May. Many, of course, who purpose showing at the larger fairs shear much earlier (about the first week in April) or else not at all, simply keeping the fleece trimmed. On the other hand some flock owners allow their sheep to suffer on into the hot weather of July by making them carry a fleece that they consider is becoming heavier all the time because of an increased secretion of yolk. They forget that many sheep in the flock are all the time losing portions of their flock that drop off naturally because of the new growth coming in.

There are two methods of shearing, by hand and by machine, both of which are extensively practised, but in Australia, United States and Canada the modern machine shear is rapidly displacing the old method of shearing by hand. Perhaps the greatest reason for the increasing popularity of the machine is the fact that a man who has never done any shearing can learn more quickly and more easily with a machine than he can by hand. It runs on much the same principle as a horse clipper; in fact many firms handling horse clippers also sell adjustable sheep shearing attachments. Secondly, when a man once becomes familiar with the use of the machine he can shear many more sheep in a day besides making a much neater and smoother job. Thirdly, with the machine there is less danger of cutting into the skin of the sheep and thereby causing undue loss of blood. Fourthly, there is not the same strain on the wrist, which means something as shearing is an arduous task at the best of times. Fifthly, and very important in this era of high prices, a greater amount of wool is obtained because the machine gets closer to the skin, taking the fleece off evenly and uniformly.

One disadvantage attached to the machine is the fact that it is almost essential to have some form of power to facilitate operations. The best of hand operated machines provide harder work as a rule for the man at the handle than for the man at the shear. Where large numbers of sheep are kept this power can be applied by means of the overhead extension rod system whereby several machines can be operated simultaneously. For smaller farm flocks, however, the power is best supplied by means of the smaller engine, ½ or 2 h.p., usually sold by the same company that handles the shearing apparatus. I have in mind one company that handles a small ½ h.p. engine with shearing attachment, complete for $50. The hand operated machine combining both horse clipping and sheep shearing attachments, can be purchased for from $15 to $20. Hence, considering the advantages, the prices are by no means prohibitive.

There is, of course, a right and wrong way of holding sheep while shearing, and to describe it in detail would occupy too much space in this article. Suffice it to say that the right way can only be learned by observing other men at work, actual practice, patience, perseverance and the keeping of the sheep in as comfortable a position as possible. It is the application of some system to your method of removing the fleece that tends to gradually increase your speed. If any bad cuts are made in the skin, it is wise to apply a little pine tar or similar disinfectant to keep the flies and maggots away.

The fleece removed, it should either be thrown on a large slated table, where it is spread out, or else spread out on the shearing floor. In either case the side nearest the skin should be down. Remove all dung locks and extremely dirty wool and folding the sides in, roll tightly from tail to neck so that the best wool at the heart and shoulder shows on the outside of the roll. It is the quality of this superior wool that determines the grade. Having rolled tightly, tie securely with only paper twine and pack each fleece in large sacks, keeping lamb, wether, buck and ewe fleeces separate. Do not shear when the sheep are wet; for even though it may add to the weight, the fleeces grade lower because of the presence of so much moisture, and hence greater shrinkage. Furthermore, never store the wool away in a damp place where it will take on a large amount of moisture. Be sure to sweep the floor after each sheep is shorn.

Dipping

It is only right that the process of dipping should be dismissed along with that of shearing as the two operations are more or less linked. No flock owner expecting to get the best results in a sound, healthy, heavy clip can ignore the importance of dipping in this regard. One of the very best investments in connection with the large or small flock is to spend a few dollars in providing an annual bath for every member. The sheep appreciate it. The ticks and other vermin do not, and he who does not dip his sheep at least once a year should try going without a bath. He might then have more sympathy for the flock. It is criminal for a man to own a flock of sheep covered with ticks, tice and scab that suck the very life blood and consume the major portion of the feed given primarily for the sustenance of the flock. It is just exactly like having dirty fence corners that pollute with weeds the fields of your neighbors. The vermin infested flock is a source of contamination for every other flock in the neighborhood.

Besides ridding the flock of ticks there are two other objects sought in dipping—(1) the improvement of the skin's condition, and (2) the increase in growth of wool. The condition of the skin is improved in that dipping effects a cleansing which tends to promote healthy action of the pores. This stimulated and healthy action of the pores in turn stimulates the growth and general quality of the wool. In short, the sheep—body, skin and fleece—is muh invigorated after a thorough cleansing.

In many countries it is the practice to dip twice a year; in fact, it is compulsory in some cases, but with us it is generally conceded that one dip keeps the flock clean. Only, however, with the proviso that this one dip is performed in a thorough manner and with the proper material. The best time to dip is shortly after shearing, shy two weeks or more, when one is certain as to the warmth of the weather. The whole flock, lambs as well as ewes, can be dipped at the same time, though it is better to dip the lambs a few days after the ewes. This means more time, though, and time is a very

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Some Labor Saving Devices Useful Around Farm Buildings in Lessening Manual Labor

In view of the tremendous wastage going on in the world and the absolute necessity of conserving all our interests for the benefit of increased production, it behooves us to look carefully about and find out if possible where the cost of production can be lowered to the advantage of both the producer and the consumer. The price of country produce is already too high to the latter in many lines; not because the farmers are getting too much for their goods, but that the cost of production is too great.

Under present conditions and for some time to come no doubt, improvement will have to be brought about by a more general use of labor saving tools, implements and machinery on the farm. The substitution of horse-power, steam power, gasoline and electric power, wherever possible, for that of man power has revolutionized conditions in the manufacture of factory-made goods and while not so easily applied to farm operations a great advance has been made in that direction and there seems to be no good reason why the same principles should not more generally be applied to farm operations.

Whatever may have been the cause of slower development or adoption of labor saving devices in the past, the time has come when greater need of food products will create a demand for this line of action which should become more generally practised.

One of the great causes of increased labor is found in the bad arrangement of buildings. These should not be too far away from the house and should be so arranged that the least possible walking from one to another, will be necessary in the daily chore work of the place. Then too, the arrangement inside should be made with the same labor saving idea in mind. Long rows of cattle are more conducive to economical work than short rows scattered here and there in different parts of the barn. Classes of stock getting the same kind of feed should be near together and feed from the loft should fall near the mangers to avoid carrying it long distances.

For economy of both feeding and cleaning, box stalls and pens should be kept in straight rows as much as possible. Where this is done watering devices can be placed to much greater advantage. Where there is any considerable number of stock kept a manure carrier will be found a great labor saving implement in the stock barn. Ta have a special purpose machine always ready for its particular use is most satisfactory and economical and few will be found more useful for its own purpose than the manure carrier. The wheel barrow will answer for a few animals, but when it comes to fifteen head or more the carrier should be a part of the equipment, if economical, easy and rapid work is a consideration, which it should be on every farm.

To some it may seem an extravagant statement, but we make it without any hesitation, that all farm barnyards should be cemented. To do this is not a very expensive operation. It may be done at odd times by the regular farm force if desired or a gasoline mixer can be employed for a few dollars that would do the whole job on an ordinary yard in one day. In addition to its value as a manure saver, which is very great, the yard is then always clean and the work can be done in comfort besides being much more expeditious than wadling through slush or running around the barn to escape a mud hole; and beside the whole place can be kept more sanitary and wholesome for live stock as well as the human worker.

To have proper eave-troughs on the buildings and to keep them in repair always, saves labor and loss of manure by washing from the falling water off the roofs; in addition to this it economizes in drawing many tons less of water and spreading it over the land.

A good water system is essential in the economical working of a farm. The only watering place to be seen on many a farm is the old wooden trough supplied by a hand pump, where the cows have to resort summer and winter for their daily needs, often in spring and fall up to their knees in mud and in winter shivering over a hole cut in the ice. This condition should be improved by the construction of a permanent cement tank and platform for summer use and drinking basins for winter, both supplied by an automatic system from a storage tank kept by windmill, gasoline or electric power.

Both in the grain barn and in the milk room there should be sets of scales for properly weighing all kinds of produce, not only as a matter of convenience, but as a necessity in knowing and keeping account of the farm sales and purchases.

Then a good fanning mill is a necessity. To get good results in the harvest one must sow good seed. A mill is the only economical method of separating the best seed out from amongst the lot. Hand selection may be practised as a basis of improvement but the mill must be the main source of separation. Have a good one with a bagger attachment. It will pay.

For handling the grain there should be a two wheeled truck on hand. It will save a lot of heavy lifting and will be greatly appreciated by the boys. They can be had with a bagger attachment for holding the bag when filling, which is a great convenience when man-power is scarce. A good clean scoop should be kept in the grainary for no other purpose than handling grain. On too many farms the scoop is used for all kinds of work, even cleaning the stables, and when needed for grain it is too filthy to use without cleaning; anyway a shovel used for such work is very unsatisfactory for shovelling grain. For this purpose it should be clean and bright so that the kernels will slide off easily and quickly.

A good set of tools of all kinds is essential to quick and efficient work about the buildings. Old forks with broken handles and tines, shovels with the edges torn and ragged and baskets or measures without handles are only apologies for proper and useful articles, which should be discarded at the earliest opportunity.

Some still cling to the ancient method of unloading hay and grain by man power. In the face of the fact of high-priced labor no one can afford to do this. Even though one can manage with his own help it would be a patriotic as well as profitable thing to invest a few dollars in a horse-fork, sling, ropes, pulleys, etc., and let one of the boys, if not needed at home, give the neighbors a lift.

Where ensilage is used as a part of the ration a good basket, a large wheelbarrow or a big truck, should be used for carrying it about the stable. Feeding forty or fifty head of cattle is a quick job with the right equipment but a tedious process with a small basket where it first has to be thrown down and then shovelled over again into it. One handling from the silo to the cows is sufficient. On a good cement floor one man, with a proper outfit, can convey sufficient feed for an ordinary herd at one operation and no stable in these days of cheap and durable cement products, should be without a good smooth floor of this kind. On the outside of the stable in addition to the use of cement over the barnyard, this material may be profitably used for many purposes to save labor. The walks from the house should be of this kind. So many farmers from fall to spring travel over disagreeable walks or run around mud holes to avoid getting over their boot tops, when a few barrels of cement and a few loads of gravel would make the passage clean and pleasant, that the wonder is that almost every farm in the country is not equipped with one or more of them, especially when the work can almost all be done without expert help. On account of its cheapness and durability, cement should be used for many permanent jobs that will save labor in renewing every few years, besides being very much cheaper at the first in building. Floors of all kinds, troughs, well curbs, milk and ice houses, gate posts, and many other things should be built of cement which will not only cheapen the cost of production, but make the labor of the farm more congenial.

SHEEP PROTECTION ACT AMMENDED

The sheep owners of New Brunswick will be delighted to know that the long mooted ammendment to the Sheep Protection Act has been passed by the Legislature of the province, in compliance with the resolution passed by the New Brunswick Farmers and Dairymen's Association last winter. The Act, as ammended, will be published in our next issue. It gives the sheep owners of the province the protection they have been asking for for many years.

The New Brunswick Standing Field Crops Competition for 1917

There will be competitions this year in Standing Crops in the several counties of the province where competitions were held last year, viz:—Carleton, Gloucester, Kent, Kings, Madawaska, Northumberland, Restigouche and Victoria. The rules and regulations governing the competitions in the respective counties will be the same as in the past. While the department formulated a well defined set of regulations for this purpose when the competitions were first instituted, several years ago, the officers of Agricultural Societies that took the oversight of the work in the var-local officers, it would not be fair to alter the rules somewhat to better suit local conditions in their respective counties. As the prospective contenants in the different counties have already planned their 1917 fields, according to the rules laid down by their loca lofficers, it would not be fair to them to make any radical changes this year. The rules will, however, be revised to lend uniformity to the competitions of 1918 in all the counties participating. An effort will also be made to extend the competition so as to include all the counties of the province in 1918 and thereafter.

It is the duty of officers of Agricultural Societies in the counties where competitions are held, to cooperate with representatives of the Department of Agriculture in extending the scope of this work, by inducing as many as passible, members of their societies, to make one or more entries. Members of Agricultural Societies will make their entries to the Secretary of their local Agricultural Society, who will forward all the entries from his Society to the person who has charge of the work for his county, as follows:—

Carleton Co., F. S. Taylor, Florenceville; Gloucester, Madawaska, Restigouche and Kings Counties to M. A. MacLeod, Superintendent of Agricultural Societies, Sussex; Kent Co. to Antoine Belliveau, District Representative, Richibucto; Northumberland Co., J. S. Bremner, Jr.; Chatham; York Co., Harry Slipp, Queensbury; Victoria Co., S. B. Wright, Andover; Westmorland Co., A. J. Colpitts, Point De Bute.

Any member of an Agricultural Society in any of the above mentioned counties, is eligible to make entries. The members and officers of Agricultural Societies should see to it that at least five, and as many more as possible of their number, participate in one or more of the competitions held in their respective counties.

The competitions will thus become representative of the whole county and the object for which the competitions were organized will be attained viz., the home growing of more and better seed. Entries close July 25th. Will you do your part? Thank you.

IMPORTANCE OF AGRICULTURE

Agriculture must not only be self-supporting, but, in large degree, agriculture must support our other great industries. Without agriculture, the coal and iron would be left in the earth, the forest would be left uncut, the railroads would be abandoned, the cities depopulated, and the wooded land and waterways would again be used only for hunting and fishing. Shall we not remember, for example, that the coal mine yield a single harvest—one crop—and is then forever abandoned; while the soil must yield a hundred—yes, a thousand crops, and even then it must be richer and more productive than at the beginning, if those who come after us are to continue to multiply and replenish the earth.

Lightning Protection on the Farm

With References and Quotations From Prominent Authorities.

By W. E. Clark

The enormous loss due to the destruction of buildings by fire and lightning each year, is occasioning much comment, and strenuous efforts are being put forth to minimize this loss. It is estimated that the fire and lightning loss in the United States and Canade for the past year is $254,000,000.00, which means an average loss of $700,000.00 every day. In Canada alone the loss is $26,000,000 annually.

In the cities restrictions are being adopted making it impossiblo to build the easily combustible structure which has flourished in the past; in all modern cities fire districts are laid out, and combustible structures are forbidden within the limits of these districts. In addition, outside these business districts, the tendency is to discourage by Legislation the building of residences or any other structures, unless same are largely protected against fire from outside influences.

There is a tendency to regard a fire loss lightly, due to the fact that Insurance minimizes the individual loss. As a matter of fact every dollars' worth of property burned up is irretrievably and forever lost, and is a burden on the community at large, just the same as a tax.

The fact that banding together and thus reducing the risk by transferring it to other and distant shoulders cuts down individual liabilities for large amounts, does not in any way alter the situation. Every individual in Canada loses $3.50 per year on account of fire and lightning losses, whereas in Europe the per capita loss is only .48c; there they make every effort to prevent the fire, on this continent we try to extinguish it; there they figure that a fire is an absolute loss of money, here we consider it an exchange of our property for ready money. This, in general is the situation as pertaining to cities, towns and villages. It is indeed serious, and worthy of the best efforts of the Dominion and Provincial Governments to minimize the loss.

Attention is called to a much more serious phase of the matter, via, unprotected condition of farm buildings as compared with those in the city where fire protection and fire extinguishing are receiving increasing consideration. The average building is an easy prey to the flames once they are started. It is almost impossible for the farmer to arrange for capable fire fighting facilities so that he must look to prevention rather than means of extinguishing the fire. Fire once started in a farm building, either a residence or an out-building, rapidly gains headway and before the meagre fire-fighting facilities can be put into operation, has gone beyond the point where it can be extinguished. As a rule the supply of water is very limited and is generally quite distant from the point of fire, and in addition the individuals capable of fighting the fire, are limited, comprising on an average not more than two persons. This makes it all the more important that the farmer should fight hs fires before they occur.

It is unnecessary to dilate on the fact that farm buildings covered with metal roofing and metal siding is protected against fire from outside influences; this fact should be self evident to everyone. The Canadian farmer is becoming more in the habit of using metal coverings every near, and in this respect is considerably in advance of his fellow farmers in the U. S. where wooden buildings are more common and where the fire loss is consequently even larger than Canada.

The danger from forest fires is rapidly diminishing as the forests decrease. but in many sections of Canada and during long dry spells in the summer and fall months there are still vast possibilities of damage from flying embers due to forest fires. All liability to lose or damage from this and many other causes is entirely nullified by the use of metal coverings on buildings, and in the case of residences by building brick walls and using metal shingles, which makes an artistic and pleasing combination, durable, economical and fireproof.

The loss to farm buildings by fire may be controlled to a large extent by exercising care, but in regard to the loss from lightning, even the most careful family is as liable to suffer from the destructive effects as the most careless one, providing their buildings are not protected against lightning.

In considering this subject the farmer will usually have in mind lightning rods as a protection, and while lightning rods have a value, metal roofing properly applied gives better protection from lightning besides added protection against fire, sparks from the engine, etc., which might burn a wooden roof with a lightning rod on.

Lightning not only destroys property but destroys life; and anyone having experienced, in the country, a heavy thunder-storm with its accompanying discharges of lightning, would certainly not regret a slight additional expenditure for the sake of immunity from the effects of lightning. The feeling of terror usually engendered in the minds of the family, conscious of their helpless and unprotected condition, is more conducive to a high state of nervousness with its accompanying physical break-down, than almost any other cause. As the spring comes on, this subject recurs more frequently and in the hot summer days, with their heavy thunderstorms, lightning becomes a very constant source of dread and trouble.

Very careful observation has finally established a fairly good understanding as to the operations of electricity and the methods of minimizing the effects of same; lightning is a discharge of a large amount of electricity in a very short space of time, and whatever medium conducts it from the clouds to the earth suffers in the transmission, unless the medium is a first class conductor of electricity, and of sufficient size to take care of the full volume of the discharge. Trees, poles and buildings, on account of their height generally, act as conductors. In the case of buildings, an electrical discharge is generally accompanied by fire. and a severe fire in the midst of a thunderstorm, brings to light about the most helpless condition of humanity.

Below is a quotation from an article by Prof. E. S. Keene, North Dakota, Agricultural College;

"Buildings with metal roofs that are properly connected with the earth are far better protectors from lightning than could be given by rods. Buildings that are completely covered with sheet metal and well connected with the earth, are practically lightning-proof. Covered in this manner, buildings have been known to be repeatedly struck by lightning with out the least damage. The ground connections may be made of metallic rods that extend well into the earth, and are securely fastened to the metallic rofing, on the buildings. It must be remembered that the ground connections is a positive necessity and too much care cannot be exercised in its construction. The ground connection must be of considerable area and extend well into the mosit earth; a piece of galvanized iron pipe driven into the ground 7' or 8' makes a good "ground"; large buildings should have two or more of such "grounds."

In view of the above the use of metal shingles or metal roofing when put together, make practically a solid sheet of metal over the roof. In connection with these, use metal eavetroughs and conductor pipes or down spouts and drive the galvanized iron pipe into the ground near the termination of the Conductor Pipe. It is well to fasten the Conductor Pipe to the upper end of the galvanized iron "ground" by soldering or wiring them tightly together.

It is essential that the Conductor Pipe be properly maintained and not allowed to become unjointed, thus breaking up the continuous path over which the lightning may discharge into the ground.

Quotations from Prof. Wm. H. Day, Dept. of Physics, Ontario Agricualtural College, i.e., as follows:—

"For eleven years this Department has gathered reports regarding buildings that were struck by lightning; of some 600 cases we found that 53% of the buildings struck were burned. Twenty Insurance Co.'s got reports for me last year and we found from their reports that out of every 200 buildings struck by lightning 42 were rodded and out of every 200 buildings struck by lightning only three were rodded, showing 94½% as the efficiency of lightning rods in preventing strokes. A building with a metal roof properly grounded is well protected; in case a stroke occurs to that building the roofing and the ground wires or other conductors will cary off the stroke as well as if there were rods on the building."

Quotation from a report of the National Board of Firo Underwriters, Edition of 1913:—

"Protection against lightning is advisable on country buildings or isolated buildings and on all buildings, wherever located, having elevated features such as tall chimneys, high peaked or gable roofs, steeples, etc. The ordinary condition causing a lightning discharge is a cloud charged with electricity at a greatly different potential from that of the earth. The difference of potential is finally sufficient to break down the stratum of air between the earth and clouds. and an electrical discharge takes place. The high points take the discharge and unless some less resistive path is provided. from this point to the ground than the structure to be protected, the lightning will follow the next best course to the earth. generally causing damages to the structure and frequently sarting fire. In general, all-metal buildings need only to be "grounded". Iron used in any form for this purpose should be thoroughly galvanized to prevent corrosion. Conductors should have as few joints as possible, these to be mechanically secured and be protected from corrosion."

You will note from the above that the Fire Underwriters, which is another name for the National Fire Protective Association, recognize the value of the all-metal of "Metal Clad" buildings as a protection against the effects of lightning.

A quotation from a report of the Mutual Fire Prevention Bureau, Oxford, Michigan, looking after the interest of the Mutual Fire Insurance Companies:

"Every elevator or mill in the country, even if only built this year, could afford to tear off their wood shingle roof and buy metal roof, and siding and thereby reduce their rate enough to pay for the entire outlay in a few years. We will do everything we can to point out to the property owner that his interests demands the substitution of iron cladding and iron roof over wood construction."

It will be noted that the above is from a Mutual Bureau and it is to their interest to speak the truth, and to cut down the losses as much as possible because the cost of the Insurance depends upon the total loss.

Quotation from Farmers Bulletin No. 367, U. S. Department of Agriculture:—

"The greater part of the Annual loss of property by lightning is chargeable tod farm buildings and their contents, and live stock in the field. A lightning conductor means a body of conductor that will lead away a lightning discharge. Metals are good examples of conductor bodies. The ordinary farm building is not difficult to protect from lightning flashes. A Metallic roof properly connected to the earth affords ample protection to the buildings from lightning. It will not do to stop the conductor within a few inches of the ground; there should be an unbroken metallic path from the ridge of the roof into the ground.

The vital points of the connection are two; first, to reach premanently moist earth and second to secure a perfect metallic joint between the down spout and the earth conductor."

The point to be emphasized is that buildings covered with metal and properly connected to the ground, should not be attached to. or connected with buildings not protected, otherwise the unprotected building may be struck by lightning and be set afire and of course the flames will communicate to the contents of the other building. It is important that all connected buildings be similarly protected.

Every Insurance Company will give a reduction in rates for metal clad, properly grounded buildings, and this reduction will eventually more than pay for the slight additional cost of the metal covering in the first instance.

It is also well to note that all the authorities unite in stating that the Sheet Metal should be heavily and thoroughly protected by galvanized coating in order to be an efficient conductor as well as making it proof against corrosion.

With the above facts in mind there is no reason why every farmer should not protect his buildings and stock by the use of Metal Coverings, whenever a roof has to be replaced or new building erected; thus removing the fire menace, as prevention is better than [illegible] not available.

Have you got a silo? If not, and you have half a dozen cows or over. make up your mind to start now and get one if possible. Serviceable stave silos can be built very cheaply. While it is generally admitted that corn makes the best silage. oats and peas, barley, alfalfa, etc., will all make excellent silage, and will provide you with the necessary succulent milk-producing food, both for the months when pasturage is dry and also for the winter season.

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JUNE 26, 1917.

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ARE YOU MAKING OR LOSING MONEY?

There never was a year in the history of farming in the Maritime Provinces, when it was as necessary for farmers to exercise the best methods they know in the production of farm crops, as in 1917. O. S. Rayner of the Colorado Agricultural College says:—

The "rule of thumb" method will not always be successful on farms. A prescription that will fit one farm will probably not fit another. Farms are not alike.

The doctor gives a certain kind of medicine for measles, but who would expect that same medicine to cure a broken leg?

"As I write, I have before me the records of 54 farms in one community. Five of these are farms of 160 acres. On these farms the amount of capital invested varies from $2,500 to $9,000. The number of acres in crops varies from 10 to 142, and amount of live stock is five times as much on one farm as another. The difference between receipts and expenses, or the actual farm income on these five farms varies promiscuously from $100 to $1,000, yet they are all 160-acre farms. Cases of this kind can be multiplied. These are facts, and we must reckon with them.

Many conclusions may be drawn. An important one is that each farmer must study his own problems. His business may be so organized that where he is losing money, his neighbor may be making money. What may apply to his neighbor's farm with profit, may not apply to his. Perhaps a set of farm records is the best way of attacking this problem.

Patronize your nearest Co-operative Wool Sales organization. You are assured as high a figure for your wool as professional buyers and local dealers offer, and your chances are good for receiving a great deal more. We have seen this repeatedly tried and proved.

THE FARMER'S ARMCHAIR CRITIC

Anybody can ride through the country and criticize farmers. Their work stands entirely in the open—their mistakes and shortcomings are not hidden. They are told they should do this or that, and they should not do that or this. And if they took all the advice and suggestions coming their way most of them would go broke. It is easy to see why some plans fail while others succeed, but many who talk and write about farming fail to understand the difficulties that every farmer must meet. It is a simple thing to tell just how to raise a great corn crop, but it is a difficult thing to do it. One little mistake, or a few days' sickness, or the lack of dependable help at a critical time, or a bad storm, or drought may completely counteract many days of hard work in the corn field. It is easy to work out on paper how to make a profit on a bunch of hogs, or how to pay for a farm in so many short years, but a multitude of unforseen difficulties may intervene and the best-laid plans go awry. Farming operations are subject to so many vicissitudes that the business is complex, and calls for early and late watchfulness and unending precaution if it is to be made a success. The vital factor in crop production is nature, and nature is never twice alike. But the very fact that nature is such an important factor in farming makes it, for the man who understands, the most fascinating of all vocations. No farmer need be ashamed of his job. The successful farmer may well feel the greatest pride in his achievement."

"NATIONAL SERVICE" ADVERTISING TO SHOW EVERY CANADIAN HOW TO HELP WIN THE WAR.

Only one who has recently visited Great Britain or France, can realize the contract between the grim, determined, "win-the-war" attitude prevalent in those countries, and the somewhat detached interest so large a proportion of the people of Canada show in the struggle. To arouse the whole nation—to enlist the wholehearted, practical co-operation of every Canadian—the National Service Board of Canada announce that a systematic campaign of education will begin at once in the press throughout the country.

Canada was by no means slow to grasp the importance of military service, and our production of munitions has far exceeded the most optimistic predictions. But far more than that is required if our whole power is to be exerted in the Empire's fight. Those who can neither fight nor make munitions, can each in his or her own way render valuable service.

With the slogan "Fight, Work and Pay", the publicity campaign planned by the National Service Board combines an earnest appeal for this universal service, with practical suggestion for giving it. Increased production—conservation of food—thrift—and the purchase of War Savings Certificates—these are the keynotes of the advertising, which, it is hoped, will have results comparable with those which have been secured by similar publicity in Great Britain. The nature of the appeal, and its vital importance, should win for these National Service messages the closest attention and heartiest response.

WRITE

Occasionally one of our many friends sends us a mighty good short article and expresses the hope it is written according to the way we wish it. We haven't any particular rules for anyone to follow. Our readers may write on three sides of the paper, spell by ear, punctuate according to the dictates of their conscience and their articles will be acceptable if they only say something.

Many who have ideas or know things which would be valuable to others are kept from writing because of some absurd fear that they can't comply with certain fool rules of the editor about manuscript, punctuation, spelling, etc. Don't worry about these things. The Maritime Farmer wants your opinions, your experience, your problems, your suggestions. Ninety per cent of our 11,000 subscribers are working out their salvation by the same steady hard road and while everyone has his own individual problems, that same individualism helps him to work out ways and means of overcoming many of them. There is no royal road to farming, but the ruts for many a man can be filled and the grades smoothed down by knowing of the experience of someone else who has overcome under similar conditions.

Knowledge and originality are not monopolized. Your experience and suggestions are needed. The columns of your farm paper is the most logical and far-reaching place to express them. If you have a question to ask or a message for other farmers remember that is the thing, not the paper on which it is written, the grammar or even the spelling. Our office is yours.

MORE REASONS AGAINST THE $40 BULL

F. B. Shaw, writing in the Jersey Bulletin, says:—"I am pleased to note the remarks I have caused about "Knifing the Culls," and still contend that I am right. Now, we are all endeavoring to keep up the beauty of our Jerseys. Can we do so by using a long, narrow-headed bull, with a pair of hips like a toboggan slide, a set of ribs that look like a roller had run over him, and an eye in his head about the size of a bullet? Yet I saw just such a bull shown at the Hastings, Mich., fair, and was sold after the fair and said to be a good one. I also said he was worth more as a steer.

"I have seen bulls advertised fit for service for $40. If these bulls were properly raised they would bring more for beef, and if not properly raised they would be unfit to head any herd. We sold a yearling bull early this year for beef for $51.

"A man might buy a calf, raise him and take chances, and get a good bull for $25 or $30; but, as I said, a man could not run fast enough to give me a $40 bull.

"The above explains why I do not own an auto. My partner does most of the work, keeping a man part of the time. I have no money to blow; neither am I able to buy the long-priced bulls; but any man who wants a good bull and bred right can buy him worth the money."

* * *

Necessity is the mother of co-operation.

* * *

"The farmers of this country can defeat the German submarine, and when they do so they destroy the last hope of the Prussian," says Lloyd George to the English farmers.

* * *

Don't lose your temper; let the other fellow do that.

A CITY BOY AND A FARMER

The Two Sides of the Story.

A recent number of the St. John Standard contained a news item purporting that a city boy who went to work on a farm in Kings County, had to work from 5 a. m. until 9 a. m. at an unfamiliar task, and failing to satisfy the farmer he was sent home because he had been heard to cough. The Standard hands out a piece of salutary advice to farmers and exonerates the boy as follows:—

"The following communication received by The Standard reveals a serious situation. If the campaign to have the boys help on the farms is to be a success the farmers must realize that boys from the city have to be given a chance to get accustomed to the work on the farms and also an opportunity to have some social life. The boy mentioned in the letter went to the country to do his best and worked from five in the morning until nine at night and the only excuse the farmer gave for sending him home was that he coughed."

The Mother's Side of the Story

A boy left a good home in the city to do his bit by helping a farmer. The farmer's voice sounded all right over the telephone and the mother let the boy engage to go a certain day. The boy arose at five and worked faithfully at chores of all kinds, cleaning stables, piling wood, driving cows to pasture, harrowing, etc. He was given to eat his meals and retired at nine. Each day the food was fair, but monotonous. He saw only the kitchen and the room over the kitchen where he slept. He found it lonely as he saw only the farmer and his wife, but resolved to stick to it and say nothing. To his surprise one morning at the end of the week the farmer told him he was going to take him to the station to go home. The only excuse the farmer was that the boy had a cough and he did not want him. The boy was never known to have a cough and has been home some hours and has not coughed once. It was an excuse to get rid of the boy as he may have coughed when over-heated with unusual work. The boy was taken to the station at Anagance where he had to wait five hours for the train and the farmer did not even pay his return ticket.

Mothers, be more careful than I was where you send your boys.

G. L. PICKETT.

The Farmer's Wife Tells Her Side of the Story.

Anagance, N. B.,
June 18, 1917.

Editor The Maritime Farmer:

In the June 9th issue of the St. John Standard, I read a letter by one, G. L. Pickett, warning mothers to be more careful than she re letting their boys go to help farmers. I would ask space in your columns to warn the farmer to be more careful re what city boy he takes to his home, if he does not wish farm life misrepresented and he or his honest toiling wife given more work.

Following is the true tale of this farmer's troubles with this city boy. One day the farmer received a letter from a city boy saying that he was 17 years old and would like to come and work on the farm. He can milk cows, harness horses and all such farm work. The farmer says, that is just what he needs, so telephoned the boy's mother asking if she was sure her son could milk a cow. She says, he can milk all right. The farmer asked if she thought he could milk 6 cows. Her answer seemed good and all right and she seemed anxious that her boy get to the country. So a day was set. The boy came; the farmer met him at the train and when they arrived home dinner was ready. The city boy ate heartily at the farmer's well spread table—he now calls the food fair, but monotonous.

After dinner was over, the farmer started the boy harrowing with an old team that almost knows enough to cross the field straight without a driver. The boy asked the farmer what he would say to the team to start them off. The farmer told him as best he could, but it seemed useless. The farmer stayed near to help him along and teach him. In all that afternoon there was about one hour's work done, and from three to four hours spent. But the farmer made the best of it, thinking, "Perhaps I can teach him to help with the chores." Milking time came at twenty to six o'clock. The farmer started the boy at milking and found he could not do that job, nor could he be taught. The farmer tried and tried again to teach him. The wife tried also at different times to teach him to feed the calves, but all was useless. The farmer tried him again at the harrowing without avail, nor could the boy harness the team. He put the collar on upside down. The farmer gave that job up so tried him at a little ten year old boy's job, ranking wood. The wood can be seen if any one wishes to call, but sitting in the sunshine on the wood pleased him best, so the farmer decided to ask no more of him, but let him please himself for a few days. He did gather a few sticks and ranked them in place late one evening, but now says he worked from 5 a. m. to 9 p. m.

He now comments also on his sleeping room. He ought to rest for a few nights with our boys in France. A letter from one soldier that had slept in the same room for years, says "Oh, that I could be back and rest once again in my comfortable room and clean bed!" The farmer thought it all over and decided, the first day he could leave his work to take the boy to the station. On Friday, business called the farmer to Anagance and he took the boy along, paying him according to his hire. The wife gave him a lunch. He could sit idly by for hours on the farm, so sitting at the station ought to be just as pleasant, but evidently it was not, by his story or his mothers. They speak also of him being overheated. I never saw him move quickly enough to get overheated to cause him to cough. I have no need to explain about the cough he had, I think it will explain itself in time.

I would not wish anyone to think all city boys are like this one. There are boys that are doing good work on the farm and farmers are thankful to them and their parents for the help in our time of need.

The Farmers Wife,
E. M. H. BURLOCK.

DISTRICT REPRESENTATIVES OF THE N. B. DEPARTMENT OF AGRICULTURE

Agricultural Colleges and Agricultural Departments have been in existence and have been supported by the provinces as well as by the Dominion, but the great difficulty has been, that they were not in actual touch with the farmers throughout the year. Bulletins and pamphlets have been issued in millions, but they have failed to reach their objective; agricultural meetings and organizations have been arranged but still much remains to be done.

In order that there may be closer connection between the farmers of New Brunswick and the Department of Agriculture, District Representatives will be appointed if suitable men can be engaged. These men must have had practical experience and be familiar with the every day farm operation, and in addition have a training at an Agricultural College. The war has so depleted the ranks of young college students and graduates, that the Department will not be able to open as many offices as required.

Their work will consist, (1) in getting well acquainted with the people, (2) carefully studying local conditions; (3) assisting agricultural societies; (4) advising in every other activity in agriculture which will include work re stock, grain, potatoes, fruit, drainage, dairy, fertilizers, etc.

Each man will have an office properly equipped for his particular work where agricultural references will be kept, and which will form a connecting link between the county and the Provincial Department of Agriculture.

The District Representative is not expected to know everything about agriculture, but is in a position to obtain information upon any subject within reasonable time, and is expected to know how to put the findings at experimental farms and colleges into practice. Co-operative movements, such as the selling of wool and lambs, purchase of seed grain by a community, purchase of fertilizers by societies, purchase of machinery which might be made to serve many instead of one, purchase of pure bred animals instead of grades, will be activities in which the District Representative must take up actively. In short, he must study and support every movement which is for the welfare of the farmer and in many cases must be the originator of movements.

Mr. E. M. Taylor, of Little Shemogue, will open an office at Gagetown to serve the counties of Queens and Sunbury. Mr. Antoine Belliveau will be located at Richibucto for Kent Co.

Mr. Taylor has completed three years and Mr. Belliveau two years at Agricultural Colleges.

An office will be opened to serve Albert and Westmorland counties immediately a man can be engaged for the position.

The farmers in these particular counties will be well advised, to keep closely in touch with the District men.

Offices will be opened in other counties immediately arrangements can be made. The counties of Kings and Carleton have Agricultura Schools, and these will be used as the headquarters for the District men.

ASSISTANCE TO DAIRYING IN NEW BRUNSWICK

Dairying seems to be declining in some sections of New Brunswick, and doubtless those men have legitimate reason for turning their attention to other activities, due to the peculiar location and opportunity, but in those parts where dairying is more or less well established, considerable attention is to be given to the problem in order that competition may be met, and the greatest possible return made to the milk producer.

Kings County is the outstanding dairy section, and the majority of New Brunswick factories are to be found there.

During the week of June 25th, a demonstration in cheese making, for the benefit of the makers, will be given by Mr. Geo. Barr, of Ottawa' assisted by Mr. C. W. MacDougall of Sussex. Public meetings will also be arranged.

Centralization seems to be the best method of making a high class product. In the counties of Kent, Westmorland, and Albert there is a large tract of country where dairying in some form is carried on, but where commercial dairying has not reached its height, and where there is considerable room for legitimate development.

On Tuesday, June 12th, the members o fthe Legislature for these three counties, met in the offices of the Department of Agriculture and discussed with the Minister and Secretary, and Mr. Harvey Mitchell, and C. W. MacDougall, a scheme for a contral creamery to be located in Moncton, which would serve the three counties. Moncton is the best location due to railroad facilities and opportunity for disposing of by products such as buttermilk.

Mr. Barnes outlined the methods that have been so successfully followed in Nova Scotia and Prince Edward Island and recommended that similar procedure to that followed at Scotsburn be adopted.

After considerable discussion among the members, the motion made by Hon. C. W. Robinson, seconded by Mr. Magee, that the proposition be approved and supported, was unanimously consented to.

During this year a series of meetings will be arranged for in these three counties, where the entire proposition will be placed before the farmers for their endorsement. The factory is to be run on a co-operative basis, which eliminates all speculation. The Department of Agriculture is prepared to undertake all educational work and general supervision until the plant is upon a paying basis. Experienced, well qualified men will be in charge of the work.

Undoubtedly such a factory will assist the people very greatly in placing their product upon a satisfactory and more profitable market, and is without any doubt the only means whereby the keen competition from the West can be met successfully.

Labor is becoming scarce, and the woman's place upon the farm should be made as pleasant as possible. If she can send the cream to a modern factory with cold storage facilities, and receive as much or more money in many cases, such a factory will be of great value.

Leaflets explaining the idea and method of procedure will be prepared later.

There is nothing to prevent the southeastern portion of New Brunswick from having the largest creamery in the Maritime Provinces.

GROUND LIMESTONE

Experimental Farms Note

From results obtained at the Experimental Station, Kentville, N. S., it would appear that ground limestone is likely to play an important part in Nova Scotia agriculture, particularly in helping to produce soil conditions favourable to the clover plant.

It would appear that two tons of ground limestone per acre is a decidedly profitable investment, as is shown by the tests given below. The fertilizer used on duplicate plots was a 4-8-10 (4% nitrogen, 8% phosphoric acid, 10% potash), mixture applied at the rate of 500 pounds per acre in 1914, the first year of the test. One series of plots were limed once during the period at the rate of 2000 pounds per acre in 1914, and the others were not, the object being to find out the value of lime for subsequent crops.

In 1914 the yield per acre of unlimed, fertilized oats was 57 bus. 8.2 lb.; limed and fertilized, 68 bus. 6 lb.; unfertilized and unlimed, 45 bus. 12 lb.

In 1915 the unlimed, fertili ed clover yielded 4567.5 lb. per acre; limed and fertilized, 6760 lb.; unfertilized, unlimed, 2405 lb.

For the 1916 crops [illegible] were: unlimed and [illegible] per acre; limed and fertilized, 17 bus.; unfertilized and unlimed, 8 bus.

In the spring of 1916, in order to [illegible] duplicate plots were [illegible] seeding time [illegible] acre of 4-8 fertilizer (4% nitrogen, 8% phosphoric acid).

The results in 1916 from these plots were: unlimed, fertilized 1914 and 1916, 15 bushels per acre; limed, fertilized 1914 and 1916, 23.75 bushels per acre.

Another experiment [illegible] poor piece of land in a [illegible] acre,

(Continued on page 548)

HORTICULTURE

THE THIRD SPRAY

Written by G. E. Sanders and W. H. Brittain at the request of the United Fruit Companies.

During the past winter we have repeatedly predicted that Ontario would have a light crop of fruit in 1917 and that there would be a chance for Nova Scotia to market a large portion of the 1917 crop locally in markets that are normally supplied from Ontario, and that it would be good business for Nova Scotian growers to have their product well sprayed and of as high quality as possible for such markets as were available.

Our prediction of a short crop in Ontario in 1917 was based on the fact that the blackspot or apple scab was so prevalent in 1916 that it infected the leaves early in the season and caused them to drop from two to three weeks earlier than normal. Our experiments in Nova Scotia have taught us that premature dropping of the leaves must result in a light bloom and a short crop the following year.

The first accurate information in regard to the Ontario crop is now at hand. The Ontario apple blossom is going to be very light—the lightest in many years—and it is doubtful if the crop will be as large as last year.

We get a large measure of satisfaction from having predicted accurately last November the quantity of bloom and crop that Ontario would have in 1917. We based that prediction on the quantity of blackspot that was allowed to become prevalent in Ontario orchards in 1916, through lack of spraying. There is a lesson here that every apple grower must learn in order to be successful, he must learn that spraying influences the quantity of apples produced the following year more than it does the quantity the current year. The quality of the 1917 crop depends on his spraying of 1917, but the quantity of the 1917 crop depends on his spraying of 1916. If we neglect our spraying this year, we may, if blackspot is as common as usual, have the same report sent out for the condition of Nova Scotia orchards in 1918 as Ontario has this year and for the same reason. It would seem good business for the Nova Scotia grower tt have the quality of the fruit that is normally supplied by the Ontario this year to be placed on the market, stock, as high as possible, and also good business for him to have the quantity of apples produced in 1918 as large as possible, in other words it would seem good business for the grower to spray as usual this year.

The directions given for The Third Spray in Circular No. 8 of the Dominion Entomological Branch are as follows:

Time.

When the blossoms fall.

Material.

Lime sulphur 1.006 sp. gr. or about 2 gals. to 100 gals. of water (1-50) adding powdered arsenate of lime 1½ lbs. to 100 gallons.

Application

Use 200 lbs. pressure and a Calyx nozzle.

Pests Destroyed

Apple scab, Pit rot, Codling moth, Fruit worms, Budmoth, etc. If green apple bug is present add nicotine sulphate, 1 pint to 100 gals., using a drive nozzle as in previous sprays. In spraying for green apple bug, clean cultivation should be practiced until July 7th, and the trees banded with tanglefoot as recommended for the second spray.

We would warn growers to be most careful as to the strength of lime sulphur used in this spray, diluting the homemade material as indicated in page 10 of Circular No. 8, and also to reduce the quantity of arsenate of lime as indicated.

If it is proposed to use Bordeaux for the fourth spray and no apple scab is present in an orchard at the time of the blossoms falling, it might be best to defer this spray for a few days, applying it from two to four days after the blossoms fall. This would enable the grower to defer the fourth spray in the same way, thus giving greater protection to the apples from fall fungus and reducing the amount of russetting. The longer the fourth or Bordeaux spray is deferred after the blossoms, the less russetting will result, for as the hairs are shed from the young fruit and the skin becomes smooth and waxy the apple becomes less susceptible to Bordeaux injury or russetting.

Bordeaux should not be used for the third or calyx spray as it gives the maximum amount of russetting when used at this period.

Where the power sprayers have enough capacity the new spray guns introduced by the United Fruit Companies are giving the greatest satisfaction resulting in more thorough work, the saving of one man and greater speed. It would seem worth the while of growers investigating this spray gun to see if their pumps will handle it.

If you have not a copy of Circular No. 8, drop a card to G. E. Sanders, ANNAPOLIS ROYAL, N. S., for one.

THE CODLING MOTH—ITS HABITS AND CONTROL

The insect that causes the greatest amount of annal loss to the Ontario fruit grower is, no doubt the codling moth and yet probably not one orchardist in fifty has ever seen the moth itself. It is very small, flies only at night, it not attracted with either lights or sweets and consequently can rarely be obtained except by breeding it from the worm. Everyone, however, is familiar with the worm or caterpillar which feeds in the interior of the fruit. The moth lays her scale-like eggs about the time the trees are in bloom, on the leaves, stem or skin of the young apple. In a few days the larvae is hatched out and proceeds to burrow into the fruit, usually into the cavity at the calyx end. After a time the affected apple falls to the ground, the worm emerges and usually finds its way to the tree, where it forms its cocoon under the bark or other shelter. Throughout the southern counties of Ontario, there are two broods in a year, but east of Toronto and north of that latitude there is usually but one brood though a small percentage may develop early and produce a second. This is a point in the life-history of the insect of very great importance, and every fruit grower should endeavor to find out whether there are two or only one brood in his own locality.

Where there is but one brood the remedy for the insect is comparatively easy. It consists in spraying the trees very thoroughly with Paris green or arsenate of lead combined with a fungicide such as commercial lime-sulphur or Bordeaux mixture immediately after the blossoms have fallen. This will ensure the destruction by the poison of the majority of the young larva. Most of those that escape can be got rid of by gathering up the fallen fruit and feeding it to pigs or burying it deeply in the ground. An easier plan is to let the pigs have the run of the orchard, and they will make away with the fallen fruit themselves.

In all that section of the country where there are two broods, it is necessary to adopt further measures in addition to the above. One plan is to spray the trees again very thoroughly about three weeks after the blossoms have fallen. An additional remedy is to bandage the trees with burlap, sacking or other coarse material. The bands should be about eight or ten inches wide and attached to the tree by a string tied tightly around the middle, leaving the top and bottom loose and fastened to a nail. The worms will go to these bandages as a convenient shelter, under which to form their cocoons. It is necessary to remove the bandages at least as often as every ten days; the larvae attached to them may be killed by passing the bandages through a clothes wringer carried on a wheelbarrow.

In addition to the treatment given above for codling moth apply the following sprayings, which also answers for scab or black spot, canker, leaf spot and other biting insects, scale insects, blister mite, psulla and slugs:

FIRST APPLICATION.—Shortly before the buds burst; use home boiled lime sulphur—20 lbs. lime, 15 lbs. sulphur, 40 gals. water; or commercial Lime Sulphur, about one gallon to 9 of water.

SECOND APPLICATION.—Just before the blossoms open use commercial Lime Sulphur, summer strength for foliage, 1 gallon to 35 or 40 of water, or Bordeaux mixture 4-4-40 with a poison.

THIRD APPLICATION.—Immediately after the blossoms have fallen, and before the calyces close use same as for second spraying.

Formulae for Bordeaux mixture:

Copper Sulphate (Bluestone)...4 lbs.
Unslaked Lime.....4 lbs.
Water .....40 gals.

Dissolve the copper sulphate in a wooden or brass vessel with hot water, pour into a barrel and add cold water to make 20 gallons; slake the lime preferably with hot water; add cold water to make us 20 gals. Stir both barrels well and pour lime into copper sulphate barrel.

Never mix concentrated milk of lime and copper sulphate solutions.

A stock solution of each may be made and kept indefinitely if not mixed. Dissolve 40 lbs. copper sulphate in 40 gals. of water by suspending just below the water in a coarse sack. Each gal. of the liquid will now contain 1 lb. of copper sulphate. Slake any desired quantity of lime and put into a box or barrel in shaded place, or sunk in the ground. Keep covered with a small amount of water to exclude the air. Calculate how much is required for 4 lbs. of lime when well stirred.

To test Bordeaux mixture, let a drop of ferro-cyanide of potassium solution fall into a little of the mixture in a saucer, when ready. If this causes it to turn reddish brown, add more lime until no change takes place.

Lime Sulphur Wash is made as follows: Home Boiled (for use on dormant wood only):

Fresh stove lime, 20 lbs.
Sulphur (flour or ffowers) 15 lbs.
Water, 40 gals.

Slake 20 lbs. of lime in about 15 gals. of boiling water in a kettle or other boiling outfit. While slaking add the 15 lbs. of sulphur made into paste by the addition of a little water. Boil vigorously, with stirring for one hour. Dilute to 40 gals. with cold or hot water. Strain and apply at once.

2.—Commercial.—This is for use either on dormant wood or on foliage. For the former use at the strength of about 1 gal. to 9 gal. of water; for the latter 1 gal. to 35 or 40 gal. of water. Dilute to 40 or 50 gal. for cherry trees.

HOW TO PROTECT GARDEN CROPS FROM INSECT PESTS

Every individual who plants garden crops should realize that many of the vegetables must be protected from the ravages of insects if satisfactory crops are to be harvested. This work, when done at the proper time, is not difficult or expensive, and neglected gardens show the necessity of systematic attention to methods of control.

The most common insects found doing damage to crops in the gardens will be mentioned and specific directions given for their control.

The Cutworm.—This destructive insect does its most serious damage to crops while it is in the larvae or worm stage. It is green or dark in color, about one inch in length, sometimes more, and in some specimens the size is as large as a lead pencil. This worm eats many of the tender plants just at the surface of the ground, apparently being satisfied after cutting the plant sufficient to cause it to fall. The most serious damage is done during the hours of the night, and in the day time it protects itself by burying itself near the surface of the soil. The most common damage is noticed on tomatoes, peppers, young beets and sweet corn. Other crops are frequently attacked by this pest.

The best control is that of the poisoned bait method, although many plants, like tomatoes, etc., may be protected by placing a piece of paper about the stem of the plant in such a way that it is protected at the surface of the ground and a little below.

The poisoned bait is made and applied as follows. This formula may be reduced to any quantity so long as the ingredients are kept i nthe same proportion: 50 lbs. common wheat bran, ½ lb. Paris green, 1 qt. molasses; add 1 lemon or 1 orange well ground, peel and all. This is enough for 2 acres.

This mixture should be first made by mixing the bran and Paris green in a dry condition, the molasses may then be added and just enough water supplied to make the whole mass into a thick dough; applying, it is always well to strew the bait in small portions along beside the row or about the hills of plants to be protected. It is best to distribute this bait in the late afternoon or early evening, that it will not become dry. The cutworms like this material better than plants, and will most always eat sufficient to kill them in great numbers if they are numerous.

The Striped Cucumber Beetle.—This beetle appears on all vine crops within a few days after they break the ground. They will kill the plants if not controlled.

Tobacco dust applied to the plants or in the vicinity of the hill will oftentimes give complete control.

The Cabbage Worm.—The eggs of the cabbage worm are deposited by a whitish moth with which we are all familiar. The eggs are fastened to the leaf of the cabbage, and the worm begins eating as soon as the egg hatches. Uncontrolled, this worm will riddle the leaves of a cabbage plant and make the produce unfit for use.

Apply arsenate of lead or Paris green directly to the plant.

The Potato Bug.—All gardeners are familiar with this pest. On small areas the beetles may be picked as soon as they appear in the spring. Hand picking is slow work, however, and the use of poison sprays gives the best control. Use arsenate of lead or Paris green.

The Squash Bug.—The big, dark-colored bug that attacks the squash is difficult to control. As they eat in groups, it is possible to control them satisfactorily by picking them off with the hand and destroying them with oil or fire.

The Cabbage Maggot.—This little maggot works on the root and stem of the cabbage, eating on the inside until the strength of the plant is exhausted. The losses from this insect are great.

The best means of control for the home garden is to place small disks of tarred paper about the plant at the surface of the ground. The disks may

be cut in any shape and a slit cut to the center to allow the stem to slide through when it is put into place. This means of control prevents the fly from laying the egg.

There are many more troublesome insects of less importance, which space prevents mentioning at this time. Each individual must watch with care for evidence of trouble, and take immediate steps to control. Most of the insect pests may be controlled with ease by making early attacks or exercising preventive methods.

POINTS ON COLD STORING FRUIT

Apples should be stored as soon as possible after they have been packed. The apple is an organism and, like every other living thing, it has its definite length of life. During its growing period the apple stores within itself food material that is capable of preserving its life for a considerable length of time after its removal from the tree. These food products are mainly starches and sugars, and by the chemical changes which occur in the apple during the ripening process the starches are changed into sugars and the sugars gradually break up into simpler compounds. It has been found that a cold temperature will slow down the chemical changes. The object of cold storage is therefore to postpone the final breakdown or death of the fruit by checking these developing processes. It is a well-known law that with each increase of 18°F. the rapidity with which chemical changes take place is increased from two to three times, or applying this to fruit storage, at 50° temperature the chemical changes which ultimately result in the death of the fruit would occur at least twice as rapidly as at 32°. Thus the conclusion to be drawn is plainly that the lowest temperature at which the fruit can be held without danger of freezing is the one most favorable to its length of storage life. Fruit has been placed by the Department of Agriculture in cold storage, part held at 32° and part as 35°, and the results were briefly as follows: The first two inspections, in January and February, showed very little difference in the amount of scald or decay in normally good-keeping apples held at the two temperatures. However, at the third and fourth inspections, made toward the end of their storage life, the fruit held at 35° showed considerably more decay than that stored at 32°. In apples with a shorter storage life the differences were shown even in the first two inspections. These results are additional proof to the effect that low temperatures retard the ripening processes, and that as these processes are quickened by higher temperatures the life of the fruit is shortened and its susceptibility to disease increases.

Even after many years of successful cold storage of apples many persons cling to the belief that cold-storage apples will not keep as well upon removal as apples that are held throughout at a higher temperature. The Department investigations give very conclusive evidence that this opinion is eroneous. Apples from the same lot, placed in and removed from cold and common stages at the same time and held after removal under similar conditions, practically always favor the lower temperature, especially if removed fairly late in the storage season. Apples held in common storage are usually removed by January or February, while those in cold storage are often kept considerably later. People are apt to compare storage early in the season with those taken from cold storage a good deal later, and this is obviously unfair. Apples held in any kind of storage until they are overripe will undoubtedly deteriorate very rapidly upon withdrawal to a warm temperature. Just as cold retards ripening in storage, a cool temperature is best for fruit when held for any length of time after its removal from storage.

Many growers are interested in the problem of providing local storage space for their apples. In spite of what has been said regarding the effects of temperatures higher than 32°, it is not always practicable to build a cold storage house. Cold storage warehouses represent a large amount of capital in building and equipment, and also require a large operating capital. Some communities are justified in raising funds for a cold storage plant, but many are not. It is nearly always possible, however, for a small community, a group of growers, or even one large grower, to build a common or air-cooled storage house that will satisfactorily provide for their necessities. A common storage house of very large capacity may be built for six or eight thousand dollars with slight operating expenses, as against fifty or a hundred thousand dollars and larye running expenses for a cold storage plant. Many common storage houses have already been built in various sections of the northwest, and the Department of Agriculture has inspected many of them, held their fruit in several of them in the past, and has this season originated more extensive work with this type of storage.

Two essentials to be secured in the construction of a storage house are good insulation and an effeltive system of ventilation. Both of these are of utmost importance. A building must be well insulated to maintain a uniform temperature, and this is necessary if the fruit is to keep satisfactorily for any length of time. Even the briefest consideration of the details of construction and materials necessary to secure proper insulation would exceed the limits of my space, but it is highly important that the common storage be constructed to permit the minimum passage of heat or cold through its walls.

Ventilation is the next important consideration, and this may be achieved by simple air shafts, or more complicated systems, employing electric fans in the shafts. It is essential that outside air should not be admitted to the storage house when it is warmer than the air within the house.

Uniformity of temperature is a most important consideration in a common storage house. It is better to hold the fruit at 40° than to pring it down to 32° at night and allow it to jump up to 45° during the day. During the early part of the season the temperature in a common storage house will probably remain relatively high, especially if cold nights are none too plentiful. The daily receipts of warm fruit prevent the lowering of the temperature at a very rapid rate during the harvesting season. Fruit picked during the day and stored while still warm carries a large quantity of heat with it into the storage room, and when the boxes are stacked considerable time is required to reduce them to the temperature that they would reach if simply left in the orchard over night. After all of the fruit has been received it is a rather simple matter to reduce and hold the temperature at the point desired. Thirty-five degrees is about as low a temperature as most of the common storage houses maintain, but in some cases 32° is reached and held. In either case the length of time in the fall during which the fruit is held at a high temperature shows itself in the shortened life of the fruit. Early in its storage life an apple will show as little decay in common as in cold storage, but toward the middle of its storage life the difference becomes quite marked. In short, common storage may be as satisfactory as cold storage for fruit that is only to be kept until about the middle of the winter. Fruit to be held for longer periods should be placed in cold storage.

It seems entirely feasible to divide a common storage house into various compartments, each of which could be filled with fruit as rapidly as possible, and then held at a uniform temperature. This would render the common storage more nearly as efficient as the cold storage, but until some such plan has been worked out the preceding statement must hold.

PROTECTION OF CROPS

Crop protection means crop production. Canada loses over one hundred million dollars worth of her staple crops every year through the depredations of insect pests. A large portion of this loss could be prevented. As we cannot afford to lose the smallest portion of our grain and other food crops during the present critical period when the production of food is of supreme importance, the Dominion Department of Agriculture is making every effort to prevent, as far as possible, losses due to insect pests. Crop protection must go hand in hand with crop production.

Insect pests are not usually noticed or reported until they have caused considerable damage. Therefore it is urged that the closest watch be kept on all crops for the first appearance of any insect pests or damage. Immediately such damage is observed steps should be taken to control the outbreak in its incipient stage. If the pest or the method of control is unknown, specimens of the insect and its injuries should be sent at once to the

(Continued on page 545)

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NEW FACTS REGARDING FOOD VALUE OF BUTTER FAT

By J. H. Frandsen, Nebraska Agricultural College

There has been an idea prevalent among dietists and chemists as well as people in general, that fats, regardless of their source, yielded only energy and heat when consumed by the animal or human body, and until very recently no chemical or dietetic experiments had shown any really important difference between butter fat and other fats. It had, of course, been proved that fats of low melting point were more digestible than those of a high melting point. Aside from this, there was thought to be but little difference in their food value. In the estimation of many, "fat was fat" and yielded only energy and heat.

Theoleomargarine people often took advantage of this fact to exploit a cheap product as a substitute for butter. Whether or not this is just as good or better product is all well and of the place they claim for it has always been seriously questioned by dairy and creamery men. In this connection experiments carried on by E. B. Osborne, of the Connecticut Experiment Station, Dr. Mendel, of Yale, and E. V. McCollum, of the Wisconsin Experiment Station, are peculiarly interesting and more beyond doubt show the real value of butter, viz., that butter fat not only yields energy and heat as do other fats, but that it contains something more vital than other fats—a principle which, like proteids, supplies the elements necessary for growth and life itself.

In experiments carried on with white rats, young rats were fed mixtures composed of chemically pure protein, starch, fat, sugar and various salts, and got along splendidly for the first three months, then they lost appetite, fell off in growth and finally starved. After numerous repitions of this nature the investigators found that when milk was added to the ration the little animals began to regain normal condition, to thrive and grow to maturity. Many changes were made in their diet to make it more palatable, changes in salts used, the kinds and amounts of sugar, etc., but always the same result—growth ceased at the age of about four months. It was in an attempt to increase the palatability of the diet by substituting pure butter fat for the lard, which had been used as the fat in the ration that the experimenters found these new facts for the little animals immediately began to grow just as when milk was fed. It was evident that butter fat supplied something necessary for growth which lard could not supply. Other experiments were carried on to determine whether other fats from the animal or vegetable kingdom would produce the same effect as had butter fat. Experiments with tallow, olive oil, corn oil, cottonseed oil and peanut oil proved futile, while the fat of eggs and fat extracted from the cells of pig's kidney produced the same result as did butter fat. This it seems evident that the fats obtained from the living protoplasm of the animal have this quality of inducing growth other fats have ceased. This far no known fat has been found to possess this power.

Experiments with pigs and calves gave results similar to those obtained with rats. No records of experiments on man were available, it is reasonable to suppose that results fully as striking would be obtained. In this connection the editor of Hoard's Dairyman recalls two instances within two months, institutions had, in addition to a liberal allowance of milk, substituted oleomargarine for butter in the dietary of the inmates. It was noted that when oleo was used the inmates were not in as good physical condition and that physicians were in greater demand than before. When oleo was replaced with butter it was reported that the health of the inmates was materially improved.

In the light of these experiments and observations it is reasonable to suppose that even more marked discrepancies would be apparent in the growth and general health of young children.

Just how much or how little butter can be used and still maintain normal growth has not been determined but enough has been proved to give the dairyman sure footing in declaring butter fat is a better food than butter substitutes composed of vegetable fats and oils. Facts and figures like these make it most embarrasing for the oleo manufacturer to claim hereafter that he has a "just as good as butter" article, and surely it behooves the housewife to give the most careful consideration to the results of these recent investigations and the conclusions which may logically be drawn from them, before she decides to eliminate butter from the diet of her family.

LEGUMES AS A DAIRY FEED

More legumes mean less protein concentrates in the dairy cow's ration. This fact is worthy of serious consideration by dairymen in these days of unheard-of prices for bran, linseed meal, cottonseed meal, and other protein feeds that many be used to complete the grain protein of a cow's ration.

Consider the value of clover hay. This legume, together with corn silage, furnishes a ration that will maintain cows in reasonably good condition and enable them to produce a fairly large flow of milk. It would not, however, be advisable to feed such a ration continuously, nor to feed it to cows that are expected to make high records.

Besides clover, the two other legumes that may easily be grown are soy beans and field peas. The surprisingly large amount of protein contained in these is shown in the accompanying table:

Digestible Nutrients in 100 Pounds

	Protein	Carbohydrates	Fat
Wheat bran	12.5	41.6	3.0
Alfalfa hay	10.6	39.0	0.9
Red clover hay	7.6	39.3	1.8
Field pea hay	12.2	40.1	1.9
Soy bean hay	11.7	39.2	1.2

Given for comparison.

Clover hay is one of the best roughages that can be grown for dairy cows and compares very favorably with alfalfa. If a liberal amount of clover hay is used in the ration of cows of moderate producing capacity, there is no reason why the concentrate part of the ration cannot be cut down by nearly one-half.

Soy bean hay has been found to have about the same feeding value as alfalfa or clover hay. This being the case, nothing more need be said to emphasize the value of soy beans as a roughage.

Cut when the soy bean can be cut for hay is the best time for silage. Usually, however, they should be used to improve the quality of silage by cutting them into the silo at the rate of one ton beans to two or three of corn. They can also be used for soiling purposes. The Canada field pea may be grown for hay or used as a soiling crop. If sown with oats, and the crop cut as hay, a roughage is had which is fairly high in protein. As in the case of clover or soy bean hay, the use of field peas grown alone or with oats will reduce the amount of grain necessary. When properly handled, oats and peas make excellent silage.

Doubtless some dairymen are tempted to reduce too much the amount of feed given to their cows, and especially the amount given to their young stock. These men should remember that it will pay to feed liberally enough to keep the future herd in growing condition. Not only will more legumes decrease the cost of keeping a herd of dairy cows, but such feed will insure best maintenance of the young stock which will be the herd when the present era of high prices is past.

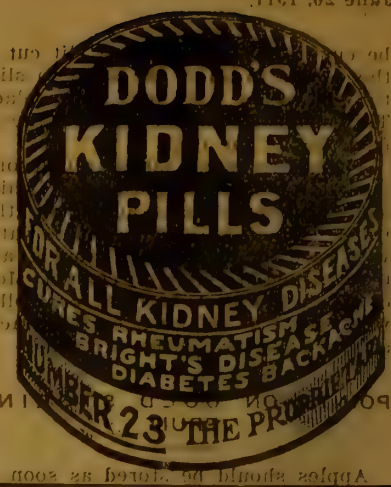
Red clover can be seeded in several ways: 1, early in the spring without a nurse crop; 2, in the spring with oats, oats and peas or some other spring sown grain. The rate of seeding is 15 pounds per acre alone, or if the soil is low and wet 10 pounds, with four pounds alsike clover. Timothy or timothy and redtop may be included in this seeding.

Soy beans are seeded alone in rows 30 inches apart or mixed with corn in the same rows for silage. For hay they are usually drilled solid. One half bushel alone, mixed two quarts of corn to one of beans, or 1½ bushels per acre drilled solid, is the usual rate of seeding. Soy beans should be inoculated where grown for the first time on a soil.

Field peas are mixed thoroughly with oats before planting, at the rate of one bushel peas to 1½ bushels oats. This is about the proper amount per acre where a young catch is seeded at the same time. Legumes are easy crops to grow. They not only increase the amount of home-grown protein, but they also add nitrogen to the soils of the farm.

ESSENTIALS FOR GOOD BUTTER

The first thing to remember if one wants to make good butter at all times, is that one must have a system to go by; do not make butter by "guess." It should not be necessary to state that "cleanliness" should be the watch word all through the process of butter making, beginning at the milk pail. Dirt and specks in the milk and cream will make "off" flavors in the butter. While good butter can be made by separating the cream from the milk by the "shallow-pan" way, to have a uniform article each churning, it is certainly better to be cooled before it is mixed with the cream that has been collected. The cream should be kept in a cold place and where it is free from any strong odors; cream should not be stored in the family general-purpose ice-chest, as it is apt to get "off" tastes and smells, from strong-smelling foods. To make nice butter, churning should be done at least twice a week, three times would be better; cream kept too long has a stale taste to the butter made from it. When one is ready to churn, the cream should be weighed, and the amount of butter that is produced from it ought to be remembered and the amount of cream that it takes to make a pound of butter noticed, so that future churnings can be controlled systematically, especially when the salt is to be added. It



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is better to have a thin cream to get good results in making butter; cream testing around 30% butter fat is about right. Too thick cream is a mistake that many make.

To make the nice flavor in butter, etc., the cream must be ripened or soured. Nine out of 10 make this the cause of strong, rancid tasting butter; in making the cream too sour. The simplest way to ripen cream is to take it the day before it is to be churned, and very slowly raise the temperature to about 67 degrees in the summer and about 72 in the winter. The way that I raise it is to set the cream pail in a pan of warm water, (not hot water), and keep stirring it, and have the thermometer in it, and watch it very carefully, till I get it where it should be. These temperatures given are the best ones to get the right sour in the cream that will flavor the butter correctly; too high temperatures give it rancid and cheesy flavors and spoil the keeping qualities; too low make bitter flavors. Right here let me state that it is very important that the butter maker have a first-class dairy thermometer. There is not much use trying to make a uniform article without one; this is where many fail in not having one, a good one. After the cream has been heated to the proper temperature, it should be put in a place where that temperature can be kept for six to eight hours, and it should be stirred at times, to make a uniform ripening. When it is noticed that it has just turned, (soured) a little and it has a sharp taste to the sour, it should then be placed in a room where the temperature can drop to churning temperature (around 58 to 60 degrees and let stand for seven or eight hours), say overnight, and then if it has been ripened correctly, it should be thick and glossy. It is safe to state that the ripening part of butter making is where so many fail, and still that is the part that makes the correct flavor to the finished butter. There are ways of ripening bu using starters, but the above method is the easiest to understand.

Proper Temperature

The temperature of the cream when put in the churn should be so that the butter will "come" in about 35 or 45 minutes, which is about 52 to 54 in the summer and 60 to 62 degrees in the winter. If the butter comes sooner than 25 minutes the next churning ought to be cooler, and if the butter takes much over 45 minutes it should be warmer. Butter coming overtime gives better results than if it comes too soon. Barrel or swing churns for home use are the best, as those with clappers, etc. inside are apt to break the grain of the butter. Churning must be stopped when the butter begins to form in granules about the size of cracked corn. Many fail by letting the butter gather in large lumps and thereby incorporating much buttermilk in the butter, which makes a streaky article and causes the butter to get rancid quickly.

After the butter "comes," as above described, the buttermilk should be strained off. It is well to remember that when the cream is put in the churn to strain it also.

After all the butter milk has been drawn off, the temperature of it should be taken, and pure water about the same temperature and the same amount should be used to wash the butter granules. Sometimes if the butter granules are noticed to be rather soft, the temperature of the water can be 5 to 6 degrees lower; if too hard, higher. Strain the water in the churn and very slowly turn the churn over two or three times. Strain off the water and give one more washing. Too many washings take away the nice flavor, so I find that if the granules are as above stated that washings are enough.

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If it is thought necessary to put coloring to the butter, it should be added to the cream just before it is put into the churn. If the cream has been weighed, and as per directions given with it; but remember not to overcolor, as it gives the butter a cheap look.

If the cream has been weighed, and the amount of butter to be made is known, then about two ounces of salt that has been sifted and moistened a little should be sprinkled over the granules in the churn to each pound of butter, more or less, according to the demands of the customers. Then the churn should be turned over several times until the butter has gotten into large lumps and then left for 15 or 20 minutes for the salt to dissolve. Then the butter can be put on the worker and worked just enough to work in the salt that may be left undissolved, which by this method of salting will be very small. Butter should never be worked with the hands, as it gets a pale, salvy look, and butter ought to be worked only enough to get the salt in and buttermilk that may be washed out, out. But, if the butter is left in granules at the time that it is washed it will be found that there will be very little buttermilk left after washing.

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THE BULL MUST HAVE EXERCISE TO BE HEALTHY

The perpetuation of the species is dependent largely upon a robust, vigorous constitution. It is quite true that a weakling may reproduce itself; but always at a disadvantage, as the offspring will invariably be of an inferior order with probably strong tendencies to sterility. This law is evidently a provision of nature to protect animal life from falling below a certain standard; while on the other hand it has made abundant provision for improvement and strengthening of any desirable features.

To overcome any tendency toward degeneration there are some things absolutely necessary; such as proper food, pure air, comfortable physical conditions, sunlight and exercise. All of these are more or less closely related and dependent upon one another in the up-building of all forms of the highest types of animal life such as man and the various domestic animals in which he is most interested. For instance the body cannot be built up properly without good food. The food cannot perform its functions in the body without pure air, not only for respiration but also for the oxidation and purifying of the blood. The sun is the source of plant life, and these form the food of animals. Nor can any of the organs of the body perform their proper functions without exercise to break down and expel the unused portions of food and develop and strengthen that required in the sustaining and up-building process.

While an animal can live for some time and neglect to take a sufficient amount of exercise, sooner or later, nature's laws will demand a readjustment and that a proper balance between this and the other important elements of life be restored or a physical breakdown cannot be averted.

Aside from the observance of these principles in man there is no class of animals that will be more largely benefitted by a proper amount of daily exercise or injured by the neglect to observe this fundamental law of good health, than the herd sire.

On account of the vicious disposition of many bulls and the liability of any of them to become dangerous at any moment, without warning, they are very frequently kept in close confinement and do not get nearly all the exercise that they should have, in order to maintain normal health; particularly after a herd sire has reached maturity and shows signs of becoming vicious. This often occurs, too, just at a time when the animal has proven himself to be a valuable sire. Hence it is most important that he should be continued in the herd. With the object in view of maintaining the usefulness of a sire in the herd let us look at some of the ways that he may be given a sufficient amount of exercise to keep him in normal health.

Right here let it be understood that what is said in this connection does not apply to any extreme case. There is now and again a bull that is not safe to keep on a farm at all unless very exceptional precautions are taken to place him beyond the possibility of endangering the lives of attendants or others who may have business about the place. Unless an animal of the kind is very valuable as a breeder of producing daughters it will be better to use him for food; but if thought otherwise, no doubt if sufficient expense is spent for protection from danger ,he can be made safe, but this fact should be made secure.

For ordinary animals a good box stall is sufficient. This can be made so strong that anything less than the most vicious can be made secure at a moderate expense and at more cost even these can be controlled with safety. The horns should be taken off a bull with a very bad temper. Relieved of these offensive weapons he will be much less inclined to be destructive, and even if he were he could not be, to the same extent. A box stall for this purpose can be made of good posts set deeply into the ground, into cement or shallower into cement and fastened to the joists if in the basement of a barn. On these should be bolted sound plank on the inside of the post. These with a window properly guarded with iron rods and a very strong door with bolted hinges properly keyed so that they cannot be thrown off and in addition to bars, chained when shut will secure a bull in absolute safety.

Where permanent bull pen is made outside the main barn, a comparatively cheap and permanent one can be made of cement. This should be made large enough for the animal to exercise freely and so that when breeding a cow there should be plenty of room. Sixteen by twenty feet with a feeding stall at one end into which he could be coaxed or driven when desired with a strong door in the rear which could be closed to keep him in for cleaning out the pen or attaching a staff to his nose ring would be a fair size. The stall door could swing around in front of the pen door making an entry or back flat against the side of stall and fastened there when not in use.

Again steel pens may be purchased from manufacturers ready to be installed. These with cement connections make very good enclosures, but are usually too small and come pretty expensive when made large. For an inside pen they are neat and sanitary, however, and where other means of giving further exercise is provided for are a satisfactory enclosure.

In addition to the box-stalls or pens the tread-power has been used to some extent as a means to this end, and occasionally furnishes a double end by supplying light power for such purposes as pulping roots, pumping water and other light work. There are many discarded machines about the country that could be used for this purpose, the cost of which would be normal but which, if used for no other purpose could be utilized to advantage for this purpose.

Another plan is to use two strong and high posts to which is attached a strong wire near the top, running from one to the other. A ring is placed on this wire to wich is attached a lead chain running from the bull's nose ring. The animal can then walk up and down the whole length of the wire, the ring sliding along on it and controlling his movements. When this method is used care should be taken not to have the lead chain to long so that the bull will get his feet over it. If more convenient the wire may be attached to two buildings of suitable distance apart.

It is often advisable to select hard ground or a gravelly road to exercise the bull on, in order to wear his hoofs down to proper levels.

Almost any capable farmer or stockman can manage to fix up some sort of place in which to give the bull his needed exercise if he sets about the accomplishment of this purpose; but the trouble is that enough importance is not attached to the subject, or at other times it is a matter easily left over to a more "convenient day" and so goes by default altogether.

Until farmers fully realize that strong constitutioned animals cannot be bred from bulls weakened by want of exercise, this important matter will continue to be neglected.—O. V. J.

SELECTING CATTLE FOR GRADED HERD

When making selection for exhibiting graded groups of cattle for competition, many good breeders and successful exhibitors of single cattle fail to put up a good show with their groups. They do not put their cattle through the fanning mill. When an exhibitor is preparing his grain entry, he subjects it to a severe testing through the fanning mill, or when he is to exhibit roots or apples, he makes very careful selection, and when he has found an ideal sample he tries to choose all the other similar so that a uniform shape and idea of type prevails. There is no other way of catching the eye of the judge, or of showing the produce at its best.

The fanning mill for the cattle is the rigid selection of conformation, color, and type. Have all the cattle in the group of the same type, even though you have to sacrifice the presence of one of your prizetakers. Practice at home with your herd and pick out the group of five or six necessary for the entry. Take all those to the show ground and rigidly keep to them when showing for a group. They may not be very successful as individuals in the prize list, but they will have all the chance you can give them in gaining the coveted places with the group. Do not place all your first prize animals in the group on the assumption that if they were first prize winners in the single competition that they will be unbeaten in the graded group. Grading for groups is a different matter, and only few exhibitors seem to practice the art.

Where groups are shown by expert graders the great diversity of types can be noted and compared to full advantage to the breed type. Where many types of single individuals are mixed together in classes for single animals this variation of breed type is apt to get lost. Grading is of vital importance to the breed, and until it is fully understood by all exhibitors, much of their useful work will be lost. There is no finer sight to be seen in any exhibit of live stock than this of group showing, where each are chosen after the distinctive type of some family or strain, of some outstanding prepotent sire or dam, and certainly no other way whereby breeders' animals are so well shown to advantage. Grading has its value in breeding as well as in showing, and the graded group in the showing is no fanciful exhibit; it is there to fulfil an end; is an object lesson to the breeder. Live stock breeding is valueless to the individual breeder or to the breed, if grading at home is neglected.—O. V. J.

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BREEDERS' DIRECTORY FOR SHEEP AND SWINE

The past year has seen a marked increase in the demand for sheep and swine, both pure bred and commercial, among the farmers for breeding purposes. This demand is, of course, due in part to the greatly increased price of lamb, mutton and wool and in pork and its products. Further, farmers in the Maritime Provinces are realizing that there are considerable areas of waste land that could be utilized very profitably through sheep.

As this demand has grown very rapidly much difficulty has been experienced by intending purchasers, in their efforts to locate breeders of sheep and swine from whom reasonable numbers of breeding animals could be obtained. Already numerous inquiries are being made by men who are desirous of purchasing, as to where animals can be located and purchased for fall delivery.

In this connection, so far as sheep are concerned, breeders would be well advised to retain their best ewe lambs for sale for breeding purposes, since all indications point to a continued demand for breediny females and the conserving of ewe lambs is the only ultimate source for supplyinp that demand and permanently increasing our sheep population.

With this in view, and in order to facilitate and direct breeders, G. Erle O'Brien, Representative for Sheep and Swine Husbandry in the Maritime Provinces, under direction of the Live Stock Branch, Dominion Department of Agriculture, has prepared a breeders' directory for pure bred and commercial sheep and for pure bred and commercial swine in each of the Maritime Provinces, Nova Scotia, New Brunswick and Prince Edward Island. This directory contains the name of the breeder, his address, the breed of sheep offered for sale, and the number of animals for sale annually.

This directory of breeders of sheep and swine can be obtained by making application to the Live Stock Branch, Dominion Department of Agriculture, Ottawa.

GRUB IN THE HEAD

Will you please tell me, through the Sheep Column of your paper, the best treatment for sheep afflicted with grub in the head?

Ans.: Thomas Shaw, a noted authority on sheep, says: "Treatment for grub in the head is practically out of the question," while an English writer says: "Treatment—which is not very satisfactory—consists in the injection into the nasal cavities of some agent destructive to the parasite. This may be done as follows: Procure an elastic bulb syringe with a small nozzle about 6 in. long, and practice with it a few times until able to expel about a teaspoonful at a time. Fill the syringe with olive oil and turpentine in equal quantities, pass the nozzle of the syringe up the nostril, and by a sharp movement inject about a tea-

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ARE your cows contented? Are they profitable? If not, make them so by doing away with your old-time wooden stalls. They gather dirt, harbour disease germs, and prevent the free circulation of life-giving air and sunlight.

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spoonful; withdraw the syringe, and in a few moments serve the other nostril in the same manner. Prevention.—A means of prevention is to apply to the noses of the sheep with a brush a mixture of equal parts of tar and whale or fish oil once every two or three days during the hot summer weather. Or the following ointment may be used in the same way: Beeswax, 1 lb.; linseed oil, 1 pint; melt together with 2 oz. common resin, and, as this cools, stir in 4 oz. of carbolic acid."

Another Treatment

As soon as first noticed, the grub can be killed and absorbed away by giving spirits of turpentine, ¼ oz. or 1 tablespoonful; raw linseed oil, ½ teacupful. Mix and give as a drench every second or third day for a week or so. This will kill the grub, which will gradually absorb away itself, and the sheep will soon be all right. During treatment, keep the sheep in a small field where it cannot hurt itself; catch it every day and feel around the top of the head for a soft spot in the bone over the brain by pressing hard on it, and when you find it, take a sharp knife and cut the skin off the soft spot about the size of a 25-cent piece, and then cut the diseased bone, being careful not to touch the brain. As soon as you have cut around it, raise the piece of soft bone out and leave it out. This soft piece of bone, being ever where the grub is, will at once give the sheep relief, for the grub will bulge up in the hole and take the pressure off the brain. Do not attempt to remove the grub, for nature will remove it in a few days itself. The only thing to be done after the bone is cut is to keep the sheep in a cool place where flies will not bother it and cause maggots. If they should, wash it out clean with lukewarm water and soap, then apply the white lotion with a few drops of carbolic acid in it once or twice a day and it will be all right. The hole in the bone will soon heal over. Providing you should lose a sheep with this disease, bury it deep so the dogs will not get it and carry it to other sheep. Never, in any case, pour spirits of turpentine in the nostrils, for it will do not good, is cruel, and sometimes kills the sheep itself. Always give the turpentine as above mentioned.

VALUE OF MANURE FROM TWENTY-FOUR STEERS

The manure from twenty-four steers averaging in weight close to 1000 pounds each, and running loose in two box stalls at the Experimental Station, Kentville, N. S., covering a period of 120 days, or four months, weighed 112 tons, 640 pounds. The average for each day was 1872 pounds, or 78 pounds per steer. Straw bedding amounting to 10 pounds per steer per day, was used and all liquids as well as the solids were saved.

Chemists tell us that this fresh manure from fairly wel-fed steers, contains in each ton 7¾ pounds nitrogen, 3½ pounds of phosphoric acid and 9 pounds of potash. When buying commercial fertilizer we pay 25 cents per pound for nitrogen, and 7 to 8 cents for phosphoric acid. Potash cannot be bought at any price, but in order to get at a fair valuation for the manure, we should allow at least 5 cents per pound, the price of potash before the war.

A ton of the above manure at these prices would, therefore, have a value of $2.63.

At the valuation of $2.63 per ton, 112 tons, 640 pounds would be worth $295.40, or $12.31 per steer, a little over $3.00 per steer per month. Considering that potash will each year become a greater factor in economical agricultural production, the value is even greater than that given above.

Nothing has been allowed in the above calculation for the value of the humus. It is estimated that the humus value of manure is 50 to 100 per cent. of the value of the chemical ingredients, depending upon the soil on which the manure is used and the manner of application.

It is a well-known fact that half of the total value of the excrement from live stock is in the urine. If the liquid part is allowed to drain away through holes in the stable floor, or otherwise, over one half of the value of the manure will be lost, therefore, every effort should be made to conserve all the excrement voided by animals.

The water retained after twenty-four hours by 100 pounds of material used for absorbents in the stable is estimated to be as follows:—

Wheat straw, 220 pounds; Well dried peat, 600 pounds; Dry sawdust, 435 pounds; Dried leaves, 162 pounds.

DIP FOR SHEEP TICK

My sheep have a heavy fleece badly infested with ticks. Of course they cannot be clipped until warm weather. What can I do to rid them of these ticks?—(W. F.

There is only one sure way to get rid of sheep tick, and that is to dip. If you have a warm stable and can give the sheep shelter choose a moderately warm day and shear the sheep. If in your judgment in your locality weather conditions will likely make it very unwise to shear at this time you might try to dip the sheep with fleece on, but this is very unsatisfactory. In dipping use some well-recommended coal tar preparation and be careful in handling the ewes. Shear the sheep as soon as possible and then dip.

KEEP YOUNG CALVES SEPARATE

According to the Wisconsin agricultural college it is a good practice to keep the calves separated and penned in groups according to their ages. They can be fastened in stanchions when milk is fed and grain can be supplied them immediately after they drink. Feeding the grain at this time and keeping them locked in stanchions until the grain is eaten helps to overcome the habit of sucking. Calves that continue to suck one another after being turned loose should be separated or some other means taken to prevent the practice.

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There are farmers all over Canada who, after trying to save money by buying cheap engines, have discarded them and bought Alphas and been glad they did ever since.

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TIME OF BREEDING HEIFERS

Numerous factors are responsible for complete and early development of breeding heifers. If properly fed and housed, nothing exerts greater influence upon the final size of the animals than time of breeding. Early breeding is quite often practiced to the disadvantage and detriment of the future herd. The most desirable type of milch cows has a large body capable of consuming and digesting large quantities of feed. Early breeding prevents the desired growth and is not warranted under average conditions. The age of breeding should be largely governed by the size of the breeding heifers rather than their age.

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THE HORSE

INFLUENCE OF THE SIRE

Any good breeder of live stock will tell you that the sire is half the flock. By that he means that half the breeding, which results in the immediate offspring, is by way of the sire. There is no other means of building up a herd or flock which will bring quicker success than by selecting a good male. But the question of what constitutes a good male is quite another phase and is not answered in one sentence. If breeders could pick out sires or males that could transmit the qualities desired, the improvement of the herd or flock would be a simple matter.

There has been a great deal written on the selection of the male, and much of it is of prime importance, but after all has been said and done the conclusion is that there is but one absolute test—the actual production of daughters that meet the requirements. This, of course, is especially true for dairy cattle, since the production of milk is not so closely allied with form as is the production of meat in beef cattle or strength in draft horses. However, with the latter, the best of stallions sometimes fail to produce desirable typed off-spring.

This method of testing is expensive and for the dairyman loses the use of the bull during the three years or more of waiting and this is often the most valuable part of the animal's life. On the other hand many good herds have been spoiled for several years, due to the selection of an unworthy sire and this expense is far greater than the first.

It is a common practice among the dairymen of the eastern states to use comparatively young bulls in their herds for two years only, and then sell them and depend upon another young bull which they have, in the meantime, raised for the head of the herd. This practice seems at first hand to be the only practical method of procedure, because after the age of three years the bull has attained his full growth, is a heavy feeder and is hard to manage in some cases. If continued longer in the herd inbreeding would result. The question arises as to what is the proper way to avoid this trouble. The smaller breeders cannot afford to maintain two separate herd sires, hence they have not kept a bull in service long enough to prove his value.

When the dairyman purchases a calf to raise as the head of his flock and intends to keep him only two years he is very likely to be influenced to accept a cheaper individual than he would if he knew he could hold him longer. He will secure a bull calf whose ancestors have been as heavy producers as he feels he can pay for.

As a means of removing this danger as far as possible there are several methods of procedure. The first and probably more influential method with the largest number of dairymen is to purchase an exceptional animal from a breeder of known reputation. Then while he is in service in the herd to locate another breeder who is using a similar aged bull of much the same family lines and make arrangements to exchange with him. This may be a complete or qualified exchange as the breeders see fit. An understanding as to the recalling of the former sire at the end of two years is usually made.

Some breeders do not approve of this plan because of risks involved, the extra amount of feed required to maintain an animal of that age, and an inborn feeling that the other fellow will not play square. These breeders do not stop to consider that the extra amount of capital which they are investing in a new sire every second year is a more serious loss in their business than the extra feed necessary. Harmony among the better class of breeders is also being rapidly established.

The second and probably more to be desired method is to join a co-operative bull association. In this way the capital is lessened for each member and bulls of proved merit and very exceptional breeding may be brought into the community. The improvement of the stock in a community means as much or more money to the wide-awake breeder as it would if he had had the capital in the beginning to improve his own herd.

Records of cattle herds maintained by the various stations throughout the country have forcibly brought to our attention the necessity of being more careful as to the real value of our sires. The result of the Missouri station which showed that out of 11 sires used in their two herds, three were decidedly inferior, two were practically neutral and six were superior in their transmitting powers, is a positive proof that there is a call for more careful and constructive breeding.

As for the sires in other branches of live stock the same principles in modified degrees are practical. Stallions are kept in a community for a sufficient length of time to show what they will produce, and breeders are always skeptical about breeding all their mares to an unproved stallion. In sheep and swine breeding interchanges of males among breeders is a common and usually a commendable practice, except where a large flock or herd is maintained and several males are necessary.

FILLY'S FOOT TROUBLE.

We have a three-year-old filly, about 16.1 hands, which at the beginning of the winter took gravel in her off fore foot. She became lame, and I had it cut out by the smith. Her hoof is rather hot, and puss gathers in it all the while. The hole runs under her shoe to the front of her hoof, and then runs down into the live. It is cleaned out regularly and turpentine is applied to it. She has had a leather under her hoof for a considerable time now, but we have left that off. She is at work every day, as she is just as lame when at rest. Can treatment of her be done without rest? We have not had any stone or gravel out of the hole.—F. G. J.

Answer:—These cases are very troublesome, and try the patience of both owner and attendant. They sometimes go on for months and months, and suddenly heal up in a few days. As the smith has made a good opening it ought to be fairly easy to dress. Discontinue using the turpentine and apply pledgets of tow which have been soaked in either a 5 per cent. solution of chloride of zinc or peroxide of hydrogen 10 volumes. In these cases there is generally either a foreign body or a piece of dead tissue, which keeps causing inflammation and suppuration of the parts. See that after wet days or working in the mud that the place is well washed out and disinfected with the peroxide, as small pieces of dire or grit irritate the exposed sensitive tissue. Keep the bedding and stable floor as clean and dry as possible.

HORSE WITH CRACKED HEELS

Would you kindly let me know if there is a cure for cracked heels or knees? I have a half-bred horse that has them in both forelegs above the heels on the pasterns, and there is dried skin or hack between the openings, which stops them from healing. Would a blister or anything likewise clean the hack off so that they would heal up?—M. D. H.

Answer:—The great difficulty sometimes experienced in healing cracked heels lies in the fact that the wound does not get rest, and the crack continually is opened by the bending of the foot, and also, that the wet and dirt often get into them. So the first thing, if possible, is to rest the horse. Cleanse the crack by using a warm bread poultice, then apply the following lotion by means of cottonwool pledgets soaked in the lotion, and put in the hollow of the heels, a tight bandage put over all, and up above the fetlock:—Liq. zinc chlorid., 2dr.; liq. alum. chlorid., 1oz.; glycerine, 2oz.; water to half pint. As soon as the crack is dry and nearly healed, use the following ointment, which should be rubbed in every night:—Ung. hyd. ox. rub., ½oz.; ung. zinci, 1½ oz.; liq. picis

Dr. J. Woodbury's Horse Liniment

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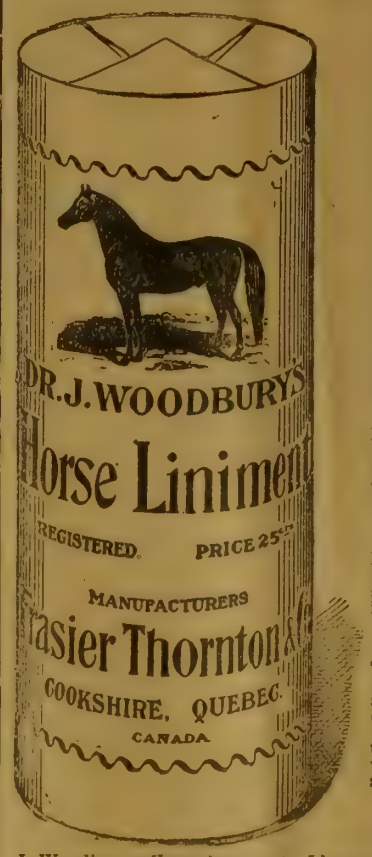

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Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.

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Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

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Summer Packs

Made of our famous Oil-Tanned Skowhegan waterproof leather; they have waterproof sole-leather outsoles and solid insoles. The soles, too, are attached by an improved clincher fastener process. They are staunch, light-weight working shoes for spring, summer and fall. Your dealer will likely have them; if not, write us, giving his name and address.

John Palmer Company, Limited.
Fredericton, N.B., Canada 29

Concrete Machinery for Farm Use

(MADE IN CANADA.)

Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas. Engines.

Ask for Catalogue A

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO., Dartmouth, N.S.

Advertise in the MARITIME FARMER

carb., 2dr. Keep the heels as dry as possible, never washing or wetting the heels. Try to get the cracks quickly healed, as in time they leave ridges that can always be felt. Certainly do not blister, as you will have the horse laid up for a month or six weeks.

WORKING HEAVY HORSES

For the guidance of drivers that they may get more and better work from their horses, the Boston work horse parade association has made these suggestions. They are as applicable to farm work as to city trucking.

Start at a walk, and let your horse work very easily for the first half hour. A heavy draft horse should never be driven faster than a walk, with or without a load.

Look to your harness. Avoid these faults especially: Bridle too long or too short; blinders pressing on the eye or flapping; Throat latch too tight; collar too tight or too loose; shaft girt too loose; traces too long; breeching too low down or too loose; inside reins too long, in the case of pairs.

Drive your horse all the time. Feel his mouth gently. Never jerk the reins. Take the horse out of the shafts as much as possible, and if you drive a pair or four, unfasten the outside traces while the horses are standing; they will rest better that way.

Teach your horses to go into the collar gradually. When a load is to be started, speak to the horses and take a firm hold of the reins so that they will arch their necks, keep their legs under them, and step on their toes. A loose rein means sprawling and slipping, often with one horse ahead of the other.

Water your horse as often as possible. Water in moderate quanities will not hurt him, so long as he keeps moving.

Blanket your horse carefully when he stands, especially if he is at all hot. Repeated slight chills stiffen and age a horse before his time.

Bring your horse in cool and breathing easily. If he comes in hot, he will sweat in the stable, and the sudden stoppage of hard work is bad for his feet.

In hot weather or in drawing heavy loads, watch your horse's breathing. If he breathes hard, or short and quick, it is time to stop.

Remember that the horse is the most nervous of all animals, and that little things annoy and irritate him. Remember that he will be contented or miserable accordingly as you treat him.

BED THE HORSES

On many farms large straw stacks are allowed to rot in the field while the horses go unbedded. Some farms also have stacks of threshed clover and damaged hay which could be very profitably utilized as bedding. The liquid part of manure is really the most valuable part and where plenty of bedding is used this is absorbed and saved; if no bedding is used most of it is leached away. The manure is also more easily handled and contains more humus.

In cold weather a horse suffers very much if not bedded. Plank or cement floors are very cold and the horses lying upon them are liable to chill. More feed is required to keep such a horse warm. Even in warm weather horses should be bedded, as they cannot get proper rest when lying upon a hard floor. The horse's coat is much easier kept clean and glossy where bedding is used. Horses, even when very tired, will stand most of the time rather than lie down upon cold and uncomfortable beds.

Leaves make most excellent bedding material and act very well as an absorbent. Many people rake up the leaves in the spring and burn them. Why not rake them up in the fall and use them for bedding through the winter? Many allow their stacks to rot in the field and then spread them upon the land. The value of the fertilizer would be many times increased if the owner would but work it up with the manure.—Carlos J. Griffing, Delaware Co., O.

"I could not have done without it this Summer, as help is so scarce"

Here is the experience of one of the scores of dairy farmers for whom the

EMPIRE Mechanical Milker

is taking the place of the farm help they can no longer get, and enabling them to keep their herds together and take advantage of the prevailing high prices.

R. R. No. 3, INGERSOLL, ONT.

Gentlemen:—

I have used one of your "Empire Milkers" since early last April, on from 40 to 45 cows continually, and can find no injurious effects on the cows. They seemed to like it from the first time, and I think gave rather more milk than with the best hand milking. Easy cows seemed less inclined to leak, and hard ones gradually became easier.

I have sent the milk a number of years to the Borden Condenser Company, and have had no complaints. I have just followed the instructions for keeping it clean.

I could not not have done without it this summer, as help is so scarce. I may say further that I have been milking cows for over 50 years, and have been in the milk business nearly that length of time. I have had no previous experience with milking machines, but have had very little trouble or expense for repairs. I have used it on heifers never milked before, with perfect satisfaction, no matter how small their teats were.

The Milker has been of more practical value to me than I ever expected.

WILLIAM COLYER.

We will be glad to send you Booklets showing exactly how the Empire Mechanical Milker works, and telling the experience which dozens of prominent dairy farmers have had with it. Address Dept. L

The Empire Cream Separator Co. of Canada, Limited,

58 MONTREAL. TORONTO. WINNIPEG.

WORK THE HORSE EASY AT START

When the soft horse is started at heavy work, the shoulders should be given a good deal of care. The horse will need frequent breathing spells and at these times life the collar so as to give the shoulder a chance to cool and to dry. When it becomes moist from sweat, it will become sore much quicker than if dry. The collar should be kept smooth, if any incrustations form on it, scrape them off. Care should be used in making sure that the horse has the collar that is fitted to its shoulders. A misfit collar is apt to lead to shoulder trouble. When starting the horse at hard work, watch its shoulders and neck, too, carefully.

Even if the farm tractors do come, good horses will still be needed. And Europe is already short of horses, and the United States will be equally short if the war goes on.

It is estimated that an acre of beans will produce as much food material for human consumption as five to fifteen acres of pasture.

Two Cases of Eczema and How They Were Cured

Further Proof That Dr. Chase's Ointment is a Positive Cure for Chronic Eczema.

If you read these letters you will find that Dr. Chase's Ointment is not to be classed among ordinary salves and ointments.

By actually curing itching, stinging eczema in many thousands of cases it has stood the most severe test to which any ointment can be put.

Mr. J. Brice, Temperance road, Parry Sound, Ont., writes: "Just a line to praise Dr. Chase's Ointment for what it has done for my wife. She has been suffering with eczema in her head for two years, and has spent no end of money with doctors and for ointments, which did her no good. She had about given up hope of ever being cured, when someone told her to try Dr. Chase's Ointment. By the use of this Ointment the trouble has left her entirely, so we have unbounded faith in it. I have told several people about the Ointment."

Mrs. W. G. Dowden, Greenspond, Bonavista Bay, Nfld., writes: "I suffered with eczema on my hands, and for eighteen months was so bad that I could not use a needle to sew or do anything. I could scarcely dress myself. Though I had lots of salves from doctors, I could never get much benefit from them. I sent for a sample of Dr. Chase's Ointment, and found it very [illegible] in action. It was not long before my hands began to heal, and four 60c boxes made them well. I cannot praise Dr. Chase's Ointment too highly and frequently give some to others to get them using it, for I know that it will cure."

In the home Dr. Chase's Ointment is of almost daily usefulness, for by relieving chafing and irritation of the skin it prevents eczema and similar itching skin diseases. Applied to all cuts and wounds, it prevents blood poisoning and heals the skin. Dr. Chase's Ointment, 60 cents a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

High in Quality
Low in Price

YOUR roofing troubles will end when you invest in Everlastic Roofing. There is no better roofing value on the market, and no better made rubber roofing for any thing like this price. It defies wind and weather and insures dry buildings.

EVERLASTIC ROOFING

Everlastic Roofing is made with all the care and skill that have made our other products famous. On any steep roof it will wear like iron. Doesn't run in summer heat or dry out in the cold.

We can fill your orders for Everlastic Roofing promptly. Don't wait till your roof is all gone. Everlastic will save you money.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

POULTRY.

CONSERVE TO PRODUCE AND PRODUCE TO CONSERVE

Let us lay out a program, rather an extended one, for the CONSERVATION of poultry this summer and fall, and for increased PRODUCTION next breeding season.

1. Keep the chicks growing. If you are so situated let the pullets have ample liberty, they will pick up a good part of their food, grass, bugs, weed seeds, etc. If not so situated feed an abundance of green food, you can get it if your eyes are open. Dandelions, a weed, cannot be beaten, used either raw or cooked. Keep the pullets busy, they are the mainstay of next season's egg and breeding operations.

2. Select the cockerels early that you desire to keep, treat them well. Push those you do not want, and either sell or eat them, or can their flesh for next winter's consumption in the home. This will run us through June, July and August—as far as the young stock goes.

3. It is recommended that an average flock should consist of 50% pullets and 50% of yearlings. This argument, sound on the whole, is subject to modification under present circumstances. It has paid us and others to keep over two-year-old hens on an intelligent selection. We have in mind now one flock, at least, that is giving a 75% production of eggs on a very moderate ration, and no individual in the flock is under two years old. These hens' eggs are large and well shelled, too. Therefore, do not kill off too fast. Keep over for next season 25% of the two-year-olds, all the one-year-olds and all the healthy, well grown pullets. Force part for early egg production. When done laying sell or eat the hens if thought best. We figure that adoption of this plan would give a natural increase of breeding stock for 1918 season of at least 50%. And we will need them all. Briefly, do not kill any females that you have accommodation and feed for, and that can be reasonably expected to profitably produce.

5. "Swat the rooster," the fellow you do not need, and "do it now." He produces no eggs, he may spoil those that are produced. His feed is needed, conserve it by eating him.

5. Save your surplus eggs by packing them in water glass. It is unlikely that eggs will be any cheaper next winter than they were last winter. Why buy veal and lamb that should not be on the market at all, and sell eggs? Eat them or save them. This applies to the small producer only. The poultry farmer must sell if community cold storage is not available. He should join an egg circle or help promote one if none in his district.

6. If you have too many head to comfortably winter—we are now into October, the harvest month—don't kill them. Get that neighbourly feeling, Mr. Smih, Mr. Jones, Mr. Brown, on your street or route can be induced to keep poultry. He may have an old shed or barn that can be turned to good use. Go shares with him even, if he is doubtful. Production—conservation is true patriotism. Food is as necessary as bullets. "Do your bit" by getting your neighbors and friends interested in poultry.

7. We are now well into winter. November and December eggs are the most profitable of the year, if you can get them. Aim to do so. If the flock is divided into layers and breeders, force the former, keep the latter fit and eager for their feed. In fact this is wise in all cases.

8. Begin hatching early from birds mated in November. Aim for 1918 to double production, sell early to give the remainder an opportunity to grow. Cultivate a local trade, use none but Standard-breds. Help form a club or association if none near you. If one already in existence, join it for mutual help. Get that "other fellow" in too. He wants help as much as you do. He won't be less interested than you are, less eager to help fill the world's markets. A few dozen eggs may seem small but they may save the life of one who has fought for you, and is paying the cost. Nothing is too small. We cannot sit down in this blessed Canada of ours to full tables and see our kin and Allies suffer and starve. Let us produce more than we need. The world is ready for the surplus. It will be just as ready in 1918.

CONSERVE TO PRDOUCE
PRODUCE TO CONSERVE

ROOFING
MILL ENDS CHEAP
A limited quantity of High-Grade Mill Ends for sale cheap. Samples Free
FACTORY DISTRIBUTORS
BOX 67 HAMILTON, CANADA

"OLD ROOSTER WEEK"

Truro, Nova Scotia.

Editor The Maritime Farmer:

The great importance of conserving the egg production of the Province is now considered a duty which should not be neglected. The prices of eggs have ruled higher to this date than in any year in the past and it is now a fore-gone conclusion that high prices will prevail during the fall and winter. It is also a fact that the production has not been as large this past season as in recent former years. Eggs may be very scarce and at any price, difficult to obtain if great care is not taken to keep the fowls producing and to keep the eggs produced in such a manner that in storage they will give the best results, and little or no loss result.

One cause of much loss in eggs during the warm weather is the male bird in the flock, after the breeding season is over. Eggs which have been fertilized are inferior for storage, and in warm weather are a constant source of loss, due to the fact that germination will begin in such fertile eggs at any temperature above 65° F. On the other hand, an infertile egg will not become decomposed, but may become stale. It rarely becomes unfit for food. It will stand storing much better and is to be preferred at all times to the egg from a mated pen of fowls. Farmers do not pay any attention to removing the male bird from the pen at the close of the breeding season, and therefore the average of the eggs produced on the farms is of a doubtful quality.

The writer would suggest that the last week in June be named "Old Rooster Week" and for all farmers, as a patriotic duty, kill off the cock birds in the pens and thus help to conserve the egg production in our province and the Empire.

Yours truly,
J. P. LANDRY.

A POULTRY ORDER FROM JAPAN

Mrs. Sarah E. Moses Smith, Woodward's Cove, Grand Manan, N. B., who advertises in the columns of The Maritime Farmer, recently received an order for a pen of Blue Orpingtons from Japan. The letter ordering the birds read as follows:—

Yokohama, 27th March, 1917.

Mr. Sarah Smith,
North Head, N. B., Canada.

Dear Sir:—

I learn from a Farmer Journal that you are raising excellent Blue Orpington.

I would like to have a male and five females of Blue Orpington for breeding purposes. These must be of the following description.

(1) All the birds must be six months up, but not over 18 months.

(2) Birds must be standard type, shape, color and comb, and of pure brood.

(3) The cock bird must have strong compulate power and the hen must be most heavy layer in your firm, having all the same color.

In regard to the price of the birds, I shall send you sixty dollars for American money, delivered free your forwarding agency. I am very gled if you will kindly send me untouched photograph of the birds, which you will ship for $60.

When I had imported Butter Cups last year from America, they had delivered free by Wells Fargo Express Co.

I hope you will ask the Wells Fargo Co., if they will allow me to have them delivered free or not. If he will not allow me free delivery, please quote me your price, including all the charges to Yokohama.

Upon receipt of your favourable reply, I shall soon give you above order.

The summer is the most dangerous season for shipping, so I hope to have them before summer.

Kindly write me as fast as you can, and if you can, write the name of the ship on which the birds come on.

Soliciting your most early reply,
Yours faithfully,
K. HIROOKA.

Address:
K. Hirooka,
Kotobukicho, 1 Chome,
Yokohama,
Japan.

SAVING EGG LOSSES

The Federal government estimates that 17 per cent. of the eggs produced in the United States are wasted because of improper methods of production and handling of this product. It is probable that the fault lies almost entirely with the producers and small dealer and that this could be very easily remedied if the farmer would adopt proper methods of producing and handling this product. The 17 per cent. loss of market eggs mentioned above is itemized by the Federal government as follows:—

Dirty eggs	2 per cent
Breakage	2 per cent
Chicks developed (fertile eggs)	5 per cent
Shrunken or held	5 per cent
Rotten	2.5 per cent
Moldy, bad flavor	.5 per cent
Total	17 per cent

The farmer sustains the greater part of this loss and the middleman and consumers suffer only a small part of it. Again, this 17 per cent. only includes that part of the product which is absolutely lost or is in an unfit condition for food. There is also a large percentage of eggs believed by the farmer to grade as the best market eggs, which, upon reaching the consumer, are graded into second, third, fourth or fifth grades because the producer has failed to realize the importance of properly producing and handling his eggs. The market egg of high quality is easily the most profitable one, and every producer of eggs should strive for it. Two points should be taken into consideration in placing a high-class egg on the market: 1. Production of the egg. 2. The handling of this product.

How to Procure Good Eggs

In the production of good eggs the stock is of utmost importance. Weak, sickly stock produces eggs that are of poor quality. Such eggs will deteriorate quickly. Discard the hens that lay too small or too large eggs, and eggs that are poorly shaped. If eggs selected for incubation are small, ill-shaped, of poor color and texture, so will be the eggs that are laid by hens hatched from those eggs.

The question of the quarters in which the stock is to be kept is also an important one. No matter how healthy the stock, if kept in poor quarters, it will become sickly and weak. The house should be roomy, well-ventilated, and allow an abundance of sunshine to enter. A good supply of dry, clean nesting material should be in all the nests at all times to reduce the danger of soiling eggs and breaking them in the nest.

Immediately after the eggs are gathered they should be graded and sorted. Take out all eggs in any way dirty. The egg with a dirty shell is one of the most objectionable factors of the egg industry. Its contents may be fresh and the egg itself may be large, but the dirt on the shell consigns it at once to the "seconds," and it will bring a lowered price in all markets. Dirty-shelled eggs do not store well and are therefore not available for holding when the surplus production is greatest. Often they scarcely pay the expense of marketing.

Do not wash dirty eggs and send them to market, for different forms of mold may result from packing the eggs damp. Washing also gives them the appearance of stale eggs by making them look glossy. Do not pack eggs that are cracked, for they will probably become broken before they reach the market and soil a number of other eggs. Pack the eggs according to size, placing the large eggs in one case and the small ones in another. Also sort them as to color, separating the brown eggs from the white eggs. Candle all eggs before sending them to market so that stale eggs, eggs with blood rings, checks, white rots, black rots, moldy eggs, eggs in which incubation has begun, etc., will not be put upon the market.

Following are five rules which might well be followed by all farmers and poultrymen in handling their poultry and eggs:—

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill or confine all male birds as soon as the hatching season is over.

The raising of poultry, collecting and marketing of eggs, etc., has always been left, to a large extent, to the

Every 10c Packet of WILSON'S FLY PADS
WILL KILL MORE FLIES THAN $8.00 WORTH OF ANY STICKY FLY CATCHER
Clean to handle. Sold by all Druggists, Grocers and General Stores

farm woman. But in too many cases, poultry raising has been considered a side issue and the care of the chickens and the gathering of the eggs has often been left to the children on the farm. As a result no one knows just how many working hens are around Poultry Galley 2 moR ao qeH the farm. Often the eggs are gathered from stolen and dirty nests and taken to town and traded for groceries. If the eggs are sold on a "loss off" basis, by which only the good eggs are paid for, those eggs gathered from stolen nests will be candled out and the farmer will receive pay for only a small part of the eggs which he has brought to town.

Now is the time to make every effort to improve the quality of the flock, select the best layers (by the trap-nest or other methods), and discard the weak sickly stock.

CURING HENS OF BROODING FEVER

Am cnR pbq a.ih (FiR ..wk5e

What to do with broody hens is a problem that confronts many farmers during the spring and early summer. To be sure, a few are used to hatch and rear chicks, but the remainder are not only a nuisance but a source of loss during the time that they are not producing eggs. It is desirable that these birds be "broken up" as soon as possible. In the Laying Contest which the Connecticut Agricultural College conducts, a broody coop 1½x1½x3 feet and made entirely of slats is provided for each house. When a hen becomes broody she is shut up in this coop with no food but with plenty of water to drink. Three days of such confinement is usually sufficient to cure her of all desire to sit. The management feels that being in the same pen where she can see the other birds moving freely about the pen and eating at liberty will cause her to get over her broody fever sooner than she otherwise would. In extremely hot weather when such close confinement would perhaps be dangerous, the broody hens are simply turned into pens with bare yards.

At one of the contests referred to records were kept showing a comparison of the different breeds with respect to broodiness. The highest percentage of broody birds was found in the Rhode Island Reds and the lowest in the Leghorns. It is interesting to note, however, that when a Leghorn does go broody, she loses more time than a bird of any other breed. By time lost due to broodiness is meant the number of days between the last egg before and the first egg after a broody period. The average number of days lost by the average bird of any of the four breeds is perhaps the best method of comparing them on this character. Thus the average Red lost 39.9 days during her pullet year due to broodiness, the average Wyandotte 38.9 days, the average Plymouth Rock 24.3 days and the average Leghorn 3.1 days. Of more importance, perhaps, to the man who is keeping but one breed is the number of days the average broody hen will lose. Thus the average broody Red last 58 days, the average broody Wyandotte 62 days, the average broody Rock 56 days and the average broody Leghorn 32 days. Although the average number of days lost each period was 21.6 for the Leghorns as against about 19 days in the other breeds, the fact that only ten per cent. of the Leghorns went broody and those only 1.5 times on the average reduced the total days lost to a small figure.

In the case of the Wyandottes and Plymouth Rocks the highest percentage of broody birds was found in the buff varieties due, in all probability, to the fact that Cochin blood was used in their ancestry to obtain the buff color.

WINTER EGG SUPPLY

It is a good practice to do something new and different every once in a while. For instance, each spring one should try to have a new vegetable or fruit for the garden. This gives one fresh interest in gardening work and adds to the store of necessary food. Another good thing to introduce this year in the practice of putting down eggs. I think it is too much to expect that hens will lay in the depths of our cold winters, and a house without eggs is sorely handicapped. Nor does one need to be without eggs. The science of preserving eggs is so highly organized that the surplus of spring and summer months can be held over for winter with scarcely any depreciation. In each of the provinces the department of agriculture is prepared to offer the most complete suggestions on keeping eggs to any who are interested. Briefly, the preliminary arrangements are to separate all male birds from the laying flock as fertilized eggs will not keep as well as non-fertile. Then collect the eggs regularly. When fresh, put them into a coal cellar or other place that is free from the blazing sun and then get ready the preserving mixture. Experience points to two standard preservatives for eggs, namely, lime water and a preparation of "water glass" and water. The first may be made by dissolving lime in water and the latter is bought at drug stores. Most people should use the former, as it costs very little, and that is a prime consideration. A good plan is to get a barrel, cut it in two and make tubs. Put about ten pounds of lime in one of these and fill it up with water. Stir until the lime has dissolved, then put the fresh eggs into the water. From time to time this will have to be refilled, as the water evaporates, and as the lime settles add more when fresh water is put in. It is not much trouble to put down a hundred dozen eggs this way, and they provide a splendid variety in winter.

Sometimes eggs are rubbed with lard and packed in bran, but this does not prevent moisture escaping from the inside of the egg. Where one lives close to a cold storage plant the trouble of preserving may be saved by simply putting the eggs in storage. Such stores usually carry thirty dozen cases for ten cents a month. In any event, preserve some eggs and do it before the hot weather of July arrives.

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send FREE to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
Box 309 WINDSOR, Ontario

Built To Please YOU

—and does please you because it offers that rare combination of service, satisfaction and economy. Ask our local dealer to show you the "Sunshine," or write for free, illustrated, descriptive booklet.

McClary's
SUNSHINE FURNACE

LONDON TORONTO MONTREAL WINNIPEG VANCOUVER
ST. JOHN, N.B. HAMILTON CALGARY
SASKATOON EDMONTON

BEST CHANCE FOR PROFIT

Thousands of hens and pullets were sent to market last fall because their owners were of the opinion that they would receive no profit from feeding them high-priced grain. In many cases this view was correct. The consequence of such action is a scarcity of fowls and unprecedented high prices for eggs.

Eggs and poultry are bound to continue high in price. Next winter may see eggs selling for more than was secured the past season. For these reasons the margin of profit may be made greater than during past years. Farmers who can grow a large part of the feed for their hens are in a position to clear a very handsome profit.

A bushel of grain a year to feed a hen is the old-fashioned way of reckoning, but if fowls are confined in yards it will require nearly 100 pounds. In order to get a profit from feeding high-priced grain you must have early hatched, well-grown pullets and give them the best of care and attention.

CREMATE THE DEAD CHICKENS

There is only one safe method of disposal of the dead, and that is by burning. An ordinary wood fire does quite well, but an old carbide can or other such thing made over slightly, makes the job easier, more complete and less repulsive. Having procured the carbide can, make a hole in the bottom a little smaller than the hole in the top, and then on one side near the top make a door as shown.

Before starting operations, dig a small hole and set the can inverted over it. Fill with cobs or wood and soak with coal oil. Then drop the dead fowl in the top and ignite. When all has burned, nothing will be left but the ashes, which have fallen into the hole and may be then covered up. In this way only, can one safely handle contagious diseases in the chicken yard.

USE MORE OYSTER SHELL GRIT

We had a very interesting talk the other day with the buyer for a very large hotel, who also happens to be a keen poultry enthusiast. He was telling us that there is a great difference as a rule between the shells of the eggs produced by city poultry keepers and those produced by the farmers.

The eggs produced by the city hens as a rule are better shelled and keep longer than those laid by their country cousins.

This he affirms is due to the fact that the city hens are well supplied with shell whilst the others are not. This is one reason why farm eggs often arrive in a damaged condition when shipped by rail. The shells are poorly formed and quickly break in transit, consequently the producer does not realize the price he should were his eggs well shelled and in sound condition.—Farm and Ranch.

PEERLESS GATES

Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

Keep Your Stock Where You Want Them

is to provide real gates, strong and durable. All Peerless Farm Gates are of heavy open hearth steel wire on strong tubular steel frames electrically welded in one solid piece, and **braced like a steel bridge.** No sag, no rust, no wearing out. Ask your dealer to show you Peerless Gates, also Peerless Perfection Farm and Poultry fencing with the famous Peerless lock at all intersections.

SEND TODAY FOR CATALOG. It tells you how to put up a fence to stay put."

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Manitoba Hamilton, Ontario

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

JUNE

By Theodore Harding Rand

Now weave the garlands for June's lyre
Their bowers of cloud whence odorous blooms are flung
Far down the dells and cedarn vales among—
See, lowly plains, sky-touching mountains aspire!
Now flash the golden robin's plumes with fire,
The bobolink is bubbling o'er with song,
And leafy trees, Aeolian harps new strung,
Murmur far notes blown from some starry choir.

My heart thrills like the wilding sap to flowers,
And leaps as a swoln brook in summer rain
Past meadows green to the great sea untold.
O month divine, all fresh with falling showers,
Waft, waft from open heaven thy balm for pain.
Life and sweet Earth are young, God grows not old.

WHAT IS WORTH WHILE?

Writen by Mrs. James E. Porter, Andover, N. B.

Only one life to live! We all want to do our best with it. We all want to make the most of it. How can we best get hold of it and accomplish the most with the energies and powers at our command. What is worth while?

Life is large. We cannot possibly grasp the whole of it in the few years that we have to live. What, then, may we let go and one what shall we lay hold, in order to live the fullest life possible and give back to the world some evidence that it has been benefited by our existence?

To begin with we may drop pretense Eternity is not good for shams. Whatever we really are, that let us be in all fearlessness. Whatever we are not, that let us cease striving to seem to be. Nothing gives such upright dignity of mein as the consciousness "I am what I pretend to me. My life shall be no vain mockery, but a reflection of true self."

We may drop worry. Let us not depress ourselves with the foreboding of future ill. Every moment of worry weakens us for our daily combat. It brings on premature old age and weakens our intellect. It makes us most uninteresting to our friends and deprives us of that strength o' mind and body which enables us to develop the best there is in us. It is an infirmity. There is no virtue in it. Seen in their true relations, there is no experience of life over which we have a right to worry. Ruskin says, "We are always given strength enough and sense enough for everything we have to do." It is not the lack of ability that often worries us, it is not our failures that distress us, so much as our idiocies.

We may let go discontent. In life I find two things that make for discontent. One is lack of harmony with our environment. The gods of fate have not been kind in placing us where our natures cannot blend in true sympathy with our surroundings, where our ideals mingle with uncongenial spirits. The other is dissatisfaction with our present opportunities.

The first may be overcome. The second may be put out of our lives, for present opportunities, if rightly used, are all that we need ask. Thoreau tells us that "opportunities are not far off, either in space or time, but right here and now at the door." Which of us can sit down at the close of a day, and say "To-day I have done all that was in my power to do for humanity and justice."

There are things in the circumstances of our lives that we can change. There are opportunities that our own efforts may enlarge. By strength of will and character we can conquer many of the difficulties that beset our career, and so conquering, be strong. I believe more and more that there is no impediment that cannot be overcome, no hindrance to usefulness that cannot be removed. We can never work well while there is friction in our lives, nor goin in our work that "beauty which is born of power and the sympathy which is born of love" of which Ruskin speaks.

We may let go self-seeking. As the waters fled away from Tantalus, so do the good things of life flee from the grasping and selfish spirit. The richest experiences never come to those who try to win them selfishly. If they do gain their desires, they find them as ashes to the taste. Selfishness kills out many human qualities and leaves the victim disappointed with life, hard hearted and unloved. But all blessings are in the way of those who, forgetful of self, try to be helpful to the world, and spend their lives in loving deeds.

Pretense, worry, discontent, self-seeking—these are the things that we may let go. Now, what are the things in life that are worth while, that we should lay hold of.

It is worth while to be wise in the use of time. It is with time that we purchase everything that life has of good. It is by the wise use of time that we make ourselves competent to live. The most reckless spendthrift in the worl is the one who squanders time. Money lost may be regained; friendship broken may be renewed; but what power can restore the moment that has passed, the day whose sun has set, the year that has been numbered with the ages past? The question of life is not "How much time have we" but rather "What shall we do with it?" "How shall we determine what things are worth giving time to?" Shall we let this priceless gift which nature has bestowed upon us slip away in haphazard deeds, or shall we adopt some systematic doing in our lives? Let us think about it. We cannot afford to lose a moment of our usefulness of the sum of our influence will be less than it might have been. Therefore let us not lose time in grieving, in dreaming, in regret, in idle talk. Life is made for some grand purpose—for work, patience, love, for bearance.

Let us lay hold of work. There can be no happy life without a strenuous, unremitting work in it. Work which occupies mind, body, heart and soul. But what work shall we set ourselves to do? How shall we find out in what direction our talents lay, and to what start out in life, and that reappear from time to time, as we see more of our possibilities.

We fear to make mistakes. We do not want to throw our powers away—to build walls of sand when we might have built monuments more lasting than bronze. Emerson says "Nature arms each man with some faculty which enables him to do easily some feat impossible to any other." Let us examine our capacities and gifts and then put them to the best use we may. Let us not try to escape our work, nor to shirk it. Above all, let us not fail to see it, but make it vital enough to strengthen our own character and inspire others. We shall never be too old for it, nor too feeble. It is for us, therefore, to use every moment of today as if our very eternity depended on its words and deeds. Oh, the remorse for the good we might have done and did not! Does it not bring pain and regret to the aching heart?

Let us lay hold of the happiness of to-day. Do we not go through life blindly, thinking that some fair tomorrow will bring us the gift we miss today? Poor mortal! when thinkest thou to be happy? Tomorrow? What is tomorrow? Is it not but another today? Knowest thou my heart, if thou art not happy to-day, thou shalt never be happy. To-day is given thee to be patient, to be unselfish, to be purposeful, to be strong, eager and work mightily. If thou doest these things with a grateful heart, thou shalt be happy. We are happy when we have done our duty, be the skies dark or fair, and if we would increase our happiness and prolong life, let us forget our neighbor's faults; forget the slander we have heard and the temptations; forget the fault-finding and give a little though to the cause which provoked it. Obliterate everything disagreeable from yesterday. Start out with a clean sheet for to-day and write upon it for sweet memory's sake,—only those things which are lovely and lovable.

Let us lay hold of friendship. Emerson says "To have a friend, you must be one." Seek how we may, we shall never find a friend without faults, imperfections, and ways that vex and sometimes grieves us. Strive as we will, we ourselves can never fully fulfil the ideal that is in our friends' mind. Yet, let us not give up friendship, though we have found this true. To have a friend is one of the sweetest gifts life can bring. To be a friend is to have a solemn and tender education of soul from day to day. One must forgive much, forget much, forbear much. Let us be slow to make friends, but, having once made them, let us pray that neither life nor death, misunderstanding, distance nor doubt may ever come between us to destroy our peace. Let us be true to our friends and then believe that they are and ever will be, true to us.

Let us lay hold of our common duties with courage and cheerfulness, with the determination and good judgment that insures success. Let us consider life at all points before we rush into a new phase of it, from which, once in, we may not soon withdraw. Most of us are bound with loving calls of toil, care and responsibilities which we must recogni e and obey. Stevenson says, "Each day brings us the petty round of irritating concerns and duties. Help us to play the man." Duty well defined and skillfully performed will make it possible for us to live our lives effectually, grandly. To be brief, let us say, "Whatsoever they hand findeth to do, do with all thy might."

Letting go the unworthy things that meet us, the things that do not make for better life, and taking loyal hold on time, work, present happiness, duty, love and faith, let us work for a present good, here and now, believing that we can reach the future only through the present. Let us so live in all true womanliness as to be an inspiration, strength and blessing, to those whose lives are touched by ours.

HOUSEHOLD DISCOVERIES

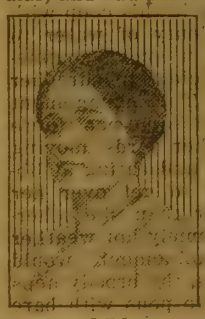
If you want to save both time and labor, iron your crepe de chene and pongee waists dry. They iron beautifully, perfectly dry and this does away with the idea that while they are damy they must be ironed.

Water drained off of rice may be used to starch clothes. This rice

PAINS IN SIDE AND BACK

How Mrs. Kelly Suffered and How She was Cured.

Burlington, Wis. — "I was very irregular, and had pains in my side and back, but after taking Lydia E. Pinkham's Vegetable Compound Tablets and using two bottles of the Sanative Wash I am fully convinced that I am entirely cured of these troubles, and feel better all over. I know your remedies have done me worlds of good and I hope every suffering woman will give them a trial."—Mrs. ANNA KELLY, 710 Chestnut Street, Burlington, Wis.



The many convincing testimonials constantly published in the newspapers ought to be proof enough to women who suffer from those distressing ills peculiar to their sex that Lydia E. Pinkham's Vegetable Compound is the medicine they need.

This good old root and herb remedy has proved unequalled for these dreadful ills; it contains what is needed to restore woman's health and strength.

If there is any peculiarity in your case requiring special advice, write the Lydia E. Pinkham Medicine Co. (confidential), Lynn, Mass., for free advice.

starch keeps for several days if kept in a cool place.

If you have a plant with leaves turning yellow, you may be sure there are worms in the soil. Place piece of an apple in the soil. The worms are sure to go to it. When you remove piece of apple you will also be removing the worms.

Never serve vegetables canned in tin in their own liquid. Drain and wash vegetables, then cook as desired.

It is a great improvement to add about ¼ tsp. of sugar and a slice of onion to canned peas when cooking.

To make baked beans canned in tin more palatable, fry together pieces of salt pork and onion, then add beans and heat together.

During warm weather when food spoils readily, corn syrup cans may be used for baking a small amount of beans.

A black silk skirt badly soiled by mud was cleaned with hot coffee and every stain removed. The coffee was first strained through muslin to remove all sediment, then freely applied to the spots and rubbed in vigorously. The entire skirt was sponged lightly with it, allowed to become partially dry and ironed on the wrong side. This treatment does not make silk stiff or shiny, but causes it to look fresh and new.

A QUEEN OF PIES.

She isn't versed in Latin, and she doesn't paint on satin,
She doesn't understand the artful witchery of eyes;
But, oh, sure 'tis true and certain, she is very pat and pert in
Arranging the component parts of luscious pumpkin pies.

She cannot solve or twist 'em—viz., the planetary system,
She cannot tell a Venus from a Saturn in the skies;
But you ought to see her grapple with the fruit that's known as apple,
And arrive at quick conclusions when she tackles toothsome pics.

She couldn't write a sonnet, and she couldn't trim a bonnet,
She isn't strictly bookish in her letter of replies;
But she's much at home, oh very, when she takes the juicy berry
And manipulates, quite skilfully, symposiums in pies.

—Elizabeth Gregg in American Cookery

FISH

Fruit of the wave! O dainty and delicious

In fish we have a food similar in character to meat, yet different from it in some ways. These points of unlikeness in the flesh of the two classes of animals correspond to differences in the natures of the animals themselves. The fibres of fish are looser than meat, more watery and have less connective tissue. Fish is of high food value being rich in proteid. It is not stimulating like meat because it lacks extractives but it is easily digested.

How to know a fresh fish.—In a fresh fish the gills are a bright red, the flesh is firm and elastic, and the eyes bulging and bright.

Baked Fish

Clean fish, rub with salt, fill with stuffing and sew edges together. Put pieces of salt pork across fish. Wrap tail in waxed or greased paper and skewer fish in shape or letter S. Dredge with flour. Baste every 10 min. Fish requises about 10 min. to the lb. and 10 minutes extra. It is cooked when meat separates from the bone. Garnish with parsley and lemon.

Salmon Hash

One can of salmon flaked fine, 1 cup rolled cracker crumbs, 1 cup milk, 1 tbsp. butter, add cracker crumbs, stir, then add flaked salmon. Stir these together then add pepper, salt and a dash of cayenne. Mix ¼ tsp. mustard with the oil from the salmon and stir this into the mixture. then add milk. When the whole is thoroughly heated through and thick it is ready to serve.

Creamed Salmon

Drop one can of salmon in hot water and while this is heating through, fry together 2 tbsp. butter and ½ onion sliced fine, stir into this 2 tbsp. flour and seasonings and 1 pt. milk. When cooked add liquor from the can putting into the pan it was baken in, 1 can of salmon and one can of peas that have been washed and drained. Arrange fish on platter and pour sauce around it. Garnish with parsley.

Baken Canned Salmon

Drain liquid from salmon, remove skin, season salmon with salt and pepper. Over the salmon place an inch thick layer of well seasoned mashed potatoes. roll in buttered crumbs. Bake ½ hr. in hot oven. basting with a little butter and cream. Place carefully on platter and place around it a cream gravy made by putting into the pan it was baken in, 1 pt. of milk. the juice of the salmon mixed with salt and pepper and 2 tbsp. flour. Strain. Garnish a lemon point with each person.

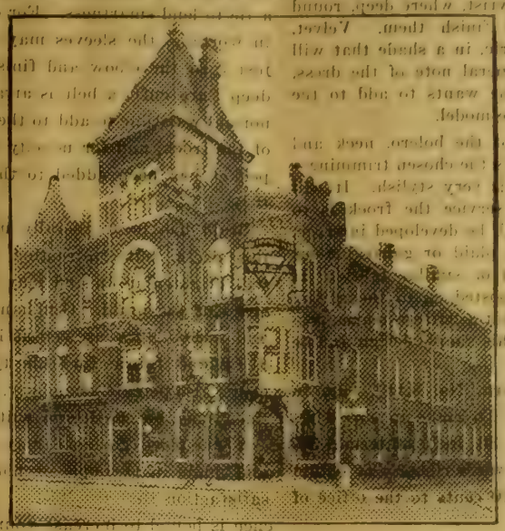
Fish Cakes.

1 c. saft codfish, 1 egg, 2½ c. potatoes, ½ tbsp. butter, pepper.

Wash fish and break in small pieces, pare potatoes and cut in pieces. Cook together in boiling water. When potatoes are soft, drain and shake over fire until dry, mash thoroughly, add beaten egg, butter and pepper and beat until light. Drop by spoonfuls in deep fat. Fry until a golden brown.

The Transformation

Right in the heart of the great city of Toronto, in the centre of the principal business district, close by the cross-roads of main traffic, stands the "second longest bar in all Canada." Observers say they used to count hordes of men entering this stronghold of the Traffic. Were the frequenters of the bar better men when they came out?



On September 16th, 1916, Prohibition went into force in Ontario, and, of course, the bar lost its license. On the 16th of April, 1917, the old bar was busier than ever! But what an arresting, beautiful transformation! Would that you and your sons could have been there to see the sight. The old bar-room was a bevy of flowers. Fifty fair ladies served refreshments to Toronto's most prominent citizens and their wives, and not one of them all but was proud to be seen in the old barroom.

The aching, worrying hearts of the army's mothers are relieved now when they see their sons enter this building—for the old bar is helping to save men now instead of ruining them.

The hotel is now the "Y.M.C.A. Soldiers' Club," one of the Young Men's Christian Association's long chain of clubs, marquees, huts and "dug-outs" extending from Vancouver to the firing line in France—the helpful sentinel-posts that safeguard our precious soldier men and boys wherever soldiers are congregated. To the Y.M.C.A. Canada owes a debt of gratitude she never can adequately repay.

Like New Brunswick, the Traffic in Ontario has the opportunity, after the war, of putting Prohibition to the test at the polls. But Prohibition in Ontario is being enforced, and the old strongholds of the Traffic—the long bars we mean—are one by one being turned to useful purposes. Many of the hotel buildings that depended for existence upon bar trade are now devoted to commercial enterprises—constructive instead of destructive.

Does New Brunswick want to return to the destructive license system, and again be a partner in the old firm of John Barleycorn and Company, Limited?

Or does New Brunswick want to maintain Prohibition for ever? If so, Enforcement must be province wide, must be both strict and effective.

Help to Enforce Prohibition

Every man and woman in this province shares the responsibility for the proper enforcement of Prohibition—not the officers of the law alone. *Your* duty is clear.

Dominion Temperance Alliance

NEW BRUNSWICK BRANCH

DONALD FRASER, President, Plaster Rock, N.B.
REV. THOS. MARSHALL, Vice-President, Fredericton, N.B.
W. G. CLARK, Treasurer, Fredericton, N.B.
REV. H. C. ARCHER, Executive Secretary, Fredericton, N.B.

The Maritime Farmers' Fashion Dept.

GIRL'S DRESS.

By Anabel Worthington.

Fashion surely plays fair with the junior in giving a design like this in a dress. The separate bolero is the feature that counts—perhaps there is none more successful than this style among the models offered for growing girls.

The waist is very simple, cut with a rather high, round neck and with fastening at the back; over it the separate bolero is worn. A ribbon girdle is draped negligently at front, after covering the joining of the waist to a one piece gathered skirt. The sleeves are set in with a slight fulness and reach to the wrist, where deep, round cuffs of material finish them. Velvet, satin or other fabric, in a shade that will blend with the general note of the dress, may be used if one wants to add to the effectiveness of the model.

For the edges of the bolero, neck and sleeve cuffs braid is the chosen trimming—it looks well and is very stylish. It will depend upon the service the frock is to give whether it will be developed in serge, wool poplin, wool plaid or gabardine—or velveteen, duvetyn or similar fabric. If you are one not posted as to the saving and satisfaction that a pattern makes possible, begin with this simple design and be convinced.

The dress pattern, No. 8,119, cuts in sizes 6-12 years. To make in size 8 requires 3⅛ yards 36 inch material, 3⅝ yards braid and 2 yards ribbon. To obtain the pattern send 10 cents to the office of this publication.

LADY'S HOUSE DRESS.

By Anabel Worthington.

It is during the busy hours that the supreme test of a woman's charm occurs, so if you want to come out with flying colors see to it that your house dress does you full justice. Of course, you will make it yourself, for you will then have the color that is becoming and the little detail touches that express you.

For appearance and service it is our opinion that the design illustrated under No. 8,173 stands out as one of merit and you will no doubt agree with us. The waist is on the style of the plain shirt waist and slightly gathered where it joins a three gore skirt, the fulness of which is gathered under a belt of contrasting goods that is stitched on at the joining. A sailor collar finishing the V neck may be of the dress material or in contrasting note and long or short sleeves may be chosen. Some women prefer to have detachable collars for such dresses. The pocket stitched to either side of the skirt is a convenience and an added attraction, especially if in contrasting color.

Linen, gingham, percale in striped or figured effect and lawn are among the favored fabrics for developing. One need not be clever with the needle to reproduce this design, for its lines are the simplest.

The dress pattern No. 8,173 cuts in sizes 36 to 44 bust.

To make in size 36 requires 4¾ yards 36 inch material, with ¾ yard 36 inch contrasting.

To obtain the pattern, send to the office of this publication.

LADY'S HOUSE DRESS.

By Anabel Worthington.

Simple in cut, smart in detail touches, neat and becoming—all of this you want your house dress to be. In the picture you see a garment with these features combined.

The dress is cut in one piece, the waist being perfectly plain, with a V neck outlined by the new style of collar, and with a tie to lend smartness. For convenience in working. the sleeves may be made to just turn the elbow and finished with a deep flare cuff; a belt is arranged about normal waistline to add to the trim effect of the frock, and for novelty the triangle pocket has been added to the skirt section.

Braid has been liberally used to trim this dress, but contrasting color goods will brighten it up and may be used instead of the braid. Gingham in narrow and wide stripes, as well as in checks, is a favored fabric for this type of garment; also percale, chambray, galatea and linen may be considered suitable.

A one-piece garment may be cut out and made in a couple of hours and the satisfaction that results from

ence is bound to increase your interest in patterns.

The dress pattern No. 8,118 cuts in sizes 36-42. To make in size 36 requires 5⅝ yards 36-inch material and 5 yards braid.

To obtain the pattern send 10 cents to the office of this publication.

GIRL'S DRESS.

By Anabel Worthington.

This is the time to visit the shops for the new spring fabrics if you have a girl going to school, for of course she has outgrown last year's frocks and you will need to make a few at least to last her for the school term.

A charming example of what is really good style for a girl up to 14 years of age is shown by the illustration. An interesting feature of the design is having the deep yoke and panel cut in one piece, the back being the same as the front. The back and front side sections are gathered where they join the yokes and a plait is made at each seam where they are joined to the back and front panels. The neck opens in a V and is collared in sailor style with contrasting goods; the long sleeve is cuffed to match. Except for a few buttons, the only trimming, if it can be called that, is a belt holding the fulness at the sides—it is of material in harmony with the collar.

Fine cords are a marked feature of the new fashionable cottons; a heavy mercerized cotton poplin with woven colored stripes is a distinct novelty; then the usual linen, gingham and like weaves are also to be seen. Now that nearly all schools teach sewing a girl of 12 years can easily manage a pattern that is named and marked and she will enjoy having a dress like the one pictured grow under her own hands.

The dress pattern, No. 8,174, cuts in sizes 6 to 14 years. To make in size 10 requires 3¼ yards 36 inch material and ½ yard 36 inch contrasting goods or 3⅝ yards all one material.

To obtain the pattern send to the office of this publication.

Price 15c Each.

See Opposite Page for Ordering

CLEANING AND STORING FURS

Light or white furs can be cleaned with corn meal or flour. Place corn meal in oven until heated, then rub into the skin of the fur, shaking it out when soiled and continuing until the flour or meal is clean. Never handle furs roughly but they should be beaten. Take a .coarse comb and comb every inch of fur shaking from time to time.

Seal each article in a newspaper or in a moth-proof bag or get tarpaper and make flat bags sewing on machine and seal article in it. Never let woolen articles stay on the line until late in the evening as insects may crawl into them for the night and make trouble later on. It pays to put up the screens early even if not necessary for flies. It may keep moth out of rugs and carpet. The box-couch will make a cedar chest by stuffing the cracks with cotton saturated in cedar oil and the addition of a few new cedar shavings.

CHOOSING OILCLOTH.

In choosing oilcloth for floor covering notice the back. Oilcloth is merely burlap given several coats of coarse paint. The design is put on by wooden blocks, each block carrying the design colors. If backing of oilcloth shows an open woven burlap it will not give good wear unless it is painted and varnished about every three months. In fact, even best grade oilcloth should be frequently varnished. Floors upon which linoleum or oilcloth is laid should be evened up with a covering of old carpet or carpet paper and all cracks filled with sand. The best of either will soon wear over sunken or protruding places in the floor.

HOME-MADE SOAP

One-pound can of potash; five and one half pounds of grease (strained); one half cupful of ammonia; one-half-pound package of borax. Dissolve the potash in three pints of cold water. This causes the water to boil. When cold, stir in the melted grease, then the ammonia, and lastly the borax, stirring constantly. Pour into pasteboard boxes to cool, and when cold, cut in squares.

A good scouring soap can also be made by adding lastly a small quantity of fine, white sea sand and stirring throughly. Finely ground oatmeal added to the original mixture will make an excellent toilet soap.

Real Home Made Pie—

Yes, Ma'am!
Real homemade Pie!

With top and under crust that truly melt in your mouth—and a generous filling of your own delicious homemade preserves or home-grown fruit.

That's a pie worth eating, and worthy of your baking, and it's the kind of pie you can make every time with

BEAVER FLOUR

MILLED OF BLENDED WHEAT

"Beaver" Flour equals any of the "special pastry flours" because it is, in itself, a special pastry flour—being the choicest Ontario fall wheat, blended with western spring wheat to give it strength.

This is why Pies, Cakes, Cookies, Tarts, Doughnuts, Buns and Fancy Pastry —when made with "Beaver" Flour—are so light, so flaky, so uniformly good.

This is also why the Bread and Rolls—made with "Beaver" Flour—have a delicate, nutlike flavour that is totally lacking in western spring wheat flours.

Just try "Beaver" Flour for anything you are baking—and see what happy results you get, every time.

DEALERS—write for prices on Feed, Coarse Grain and Cereals. 200

THE T. H. TAYLOR CO. LIMITED, - - CHATHAM, Ont.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

MODERN EQUIPMENT FOR FARM KITCHEN

Wives of farmers need not worry because of inability to obtain kitchen help. Sp-to-date equipment that will take the place of a helper may be purchased at comparatively low cost.

Of all labor saving devices, water piped into the kitchen is most essential. Although everyone cannot afford an expensive water system with bathroom equipment there are devices for bringing water into the kitchen and providing for its disposal, that can be installed at small cost. No woman should be expected to do the house work without this convenience.

Next to carrying water in and out of the house, the hardest work for the housewife is keeping the family supplied with fresh clean clothes. For this purpose she needs every modern improvement in laundry equipment. With the power washer now on the market she could have one operated by a gasoline engine or by electricity. The electric iron where available should take the place of the old-fashioned iron which necessitates many steps and much heat while doing the ironing.

MOTHER'S TOOL CABINET

Directly over the stove wood box in a farm kitchen in Dundas County, hangs a tool cabinet, out of the way and many a step it saves the busy housewife. It is forty-three inches high, twenty-five inches wide, nine inches deep, has one door and five shelves. It is screwed to the wall in such a way that it can be moved easily, if desired. Many things have a habit of finding their way to these shelves, but the chief things that belong there are several hammers, screw driver, pliers, tack pullers, nail puller, assorted nails and tacks, screws, wire twine, cans of varnish, paint, floor dressing, and the like. Scarcely a day passes when someone doesn't need one article or another from mother's tool cabinet.

Use more time and lower heat in cooking to develop flavours and to secure all the value in the food.

THE LAW OF KINDNESS

1st. Public health requires kind treatment to give us wholesome meats and milk and milk products that are not poisonous.

2nd. Agriculture requires the protection of our insect-eating birds and their nests.

3rd. Gratitude requires it for the services they render us and the happiness they bring into our lives.

4th. Duty to God who created and gave them requires it.

5th. Because it adds to the happiness of every human being through life to love and be kind to the lower animals.

6th. Because it has been proved in mnuerous schools of various nations that those taught to be doing kind acts daily to the lower races—feeding the birds, patting the horses, talking kindly to all sensitive creatures, etc.—become in all the relations of life, better men and women. —Geo. T. Angell.

The worst kind of failure is the failure that is the result of only half trying.

Make your FENCEPOSTS ROT-PROOF

DID you know that the ordinarily good fence post which you are accustomed to replacing every four or five years could be made to last 20 years? Creosote treatment does it. And Grade-One Liquid Creosote Oil brings this advantage right to your door because it is creosote in such form that the average home owner and farmer can use it.

Barrett's Grade One LIQUID Creosote Oil

The biggest point about Creosote Oil is that you can apply it by brushing or dipping. No cumbersome, closed-cylinder method. Just as simple as painting. And it penetrates deeper than any other preservative. Stop those costly renewals. Use this wonderful preservative on all wood work exposed to earth or dampness.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

FEEDING BABY.

How frequently should the baby be fed? This in a very common question among mothers, and one which is so rarely answered correctly. If a mother asks her neighbor this question she frequently gets the reply, "Oh! I feed my baby just whenever he wakes up or whenever he cries for it." Unfortunately this is the method of feeding the baby adopted in the vast majority of homes. Almost any cry from the baby is interpreted as a hunger-cry, and he is fed forthwith. It may be of interest to note here that a baby cries from overfeeding as well as from hunger.

In a certain number of homes the baby is fed fairly regularly with an approximate interval of two hours between feedings—or about ten times a day. In a smaller number of homes the baby is fed every three hours, or seven or eight times a day, and in comparatively few homes the baby is fed every four hours, or five or six times per 24 hours. In most cases the latter method is the correct one scientifically and the one to which the mother should rigidly adhere. In the following paragraphs we will consider the reasons for this conclusion.

Let us understand, in the first place, that we are speaking of infants under 12 months of age. In no case should a baby be nursed for more than 12 months. Frequently a mother will nurse a baby for a longer time rather than wean him during the summer months. This is poor management. If proper care be used, the danger of sickness from weaning in summer is slight.

The most common form of indigestion in the breast-fed baby is dyspepsia. By this is meant a condition with symptoms of colic, diarrhoea, vomiting, and a slight rise in temperature. The chief cause is overfeeding, whether this occurs by giving too much at a feeding or from nursing too often. The condition is most frequently seen among babies who are fed irregularly and at too short intervals. If the weight of these babies is noted it will be seen that at first they gain very rapidly, then remain constant, and lastly, begin to lose weight. Such babies will then require medical attention.

Some interesting comporisons of the weights of six hundred babies fed from birth every two hours and every four hours, respectively, have been made in Toronto with the following results. For a while the baby fed every four hours remained somewhat lighter in weight than the baby fed every two hours. This condition lasted until the babies were about four months old. Then the four-hour baby began to catch up with the other one, and was on even terms with it at six months. Thereafter the four-hour baby got ahead of the two-hour one, and by the end of nine months he weighed about one pound more than the two-hour baby. This was certainly an indication that he had not been starved. Furthermore, the four-hour baby had been comparatively free from digestive disturbances all that time; that is to say, he had a much better start in life. Babies fed every four hours rarely had dyspepsia.

Another point worthy of consideration is the effect on the mother of fewer feedings. The longer feeding interval will appeal to her in two distinct ways. First, the mother may not be sufficiently robust to nurse the baby every two hours. Again, the mother may have other duties to perform, which will prevent her nursing the baby every two hours. In both these cases the baby would usually be weaned, thereby decreasing its chance of living perhaps ten times. Many of these babies would not be weaned, but would have the benefit of the breast milk if the mother only understood that feeding the baby every four hours would be quite sufficient to meat all requirements.

For these various reasons we are justified in concluding that all normal babies, from birth up to the end of the first year, should be fed every four hours. Most of the above arguments apply equally well to those less fortunate babies who are fed on other than breast milk—From Toronto Civic Health Dept. Bulletin.

YOUR OWN JUDGMENT CAN BE TRUSTED

You have investigated the matter of business training. You have become convinced that business training offers better returns in money, position, and power than any other career.

You have health, character, ambition.

Your judgment says Do it! Trust your judgment! Enroll today at the

Moncton Business College,
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G. J. Schmidt Principal.

FOR THE BENEFIT OF OUR HOUSEWIVES

Washing in cold water when overheated is a frequent cause of pimples.

It is said a wart can be removed by touching it several times a day with castor oil.

Never butter your pieplates, but drege them lightly with flour.

Cover raisins with water when stoning them. This prevents stickiness, and cleanses the raisins.

Cut the old table linen into small pieces and keep it in some handy place in the kitchen to use in greasing cake and bread pans, then burn. This saves times and greasy fingers.

It is good economy to take time to keep the hands in good condition. Use small mops, brushes and paddles for every possible kind of work.

People troubled with chronic sick headache will be glad to know that sleep, if taken at the psychological moment will prevent the attack. If the subject of sick headaches will watch the symptoms they will note that it begins with a feeling of weariness and heaviness. This is the time to sleep an hour, or even two, and it will eventually prevent the headache. When the attack is fairly under way sleep will not prevent it.

Have old gloves for slipping on when doing rough work, and keep some good lotion to rub well into the hands after the work is done. Lemon juice is good to remove stains, and pumice stone for scouring grime off the hands. It is always the part of wisdom to take the very best care of these, our bodies.

When a silk gown becomes accidentally spotted with grease, rub the spots well with magnesia, entirely covering them, then hang the dress away for several days. Then brush off the magnesia and rub the spots well with a soft flannel cloth, and you will find the spots have disappeared.

"ACME" STARCH

For all fine starching, use "Acme"—white or blue —it does perfect work. In 1 and 2½ lb. packages.

THE CANADA STARCH CO. LIMITED, - MONTREAL. 37

AN ACCOMPLISHMENT REALLY WORTH WHILE

It is a great thing and a good thing to be able to keep sweet individually, but for the people of a community to be able to keep sweet is a far greater achievement. To be able to disagree with a friend or neighbor on community affairs, social matters, politics, etc., and to still maintain friendly relations with them and regard for their honest convictions is an accomplishment really worth while.

It would be a rather monotonous old world if everybody thought alike;

Lend Your Profits to Your Country

PRESENT prices for agricultural products ensure good profits to the farmer.

To pay war expenses the Government needs these profits, and will pay you over 5% interest on them. Sir Thomas White, Minister of Finance, says: "A War Savings Certificate in every Canadian home will help to win the war."

For every $21.50 you loan to Canada now, you will receive $25 at the end of three years. War Savings Certificates are issued in denominations of $25, $50 and $100, selling at $21.50, $43 and $86, respectively, and may be purchased at any Bank or Money Order Post Office.

"Make Your Land Support its Defenders!"

The National Service Board of Canada,
OTTAWA. 30

and it should be remembered that neighbors have as good a right to their opinions as we have to ours, and that they are quite as likely to be right as we are. A friendly controversy with one who differs with us will often help us to get a line on our own misconceptions, and cause us to view matters from a different angle.

We should try to remember that no one individual has a monopoly of all the intelligence and judgement and good sense in a community.

The reason why some people grow narrow and cranky and disagreeable as they advance in years is becuse they persist in adhering to their own opinions, and are intolerant of any one who presumes to differ with them. A due regard for the honest convictions of our neighbors and friends will often enable us to broaden our own outlook, and to keep in the middle of the road ourselves.

It is not that we are lacking in friendliness, for we are at heart a really friendly people. In sickness and in sorrow and even in financial reverses we are quick to proger sympathy and assistance, but in order to maintain neighborly sweetness we must do more than this. We must have a real regard for what we may term our neighbor's weakness, and respect their opinions and convictions as we would wish them to respect our own.

In all our relations with our fellow men we must be open minded and tolerant, and refuse to allow a difference of opinions to rob our neighbarly friendship of all its joy and sweetness.

BINDER SATISFACTION

Your Binder should last you many years—it should cut any crop—it should be light in draft and easy to run. It will be all this if it's a Frost & Wood.

Just remember it's only a small part of your crop that represents your net profit. All the rest goes to pay your expenses. You must harvest every straw if you want to make a profit and do more than just make expenses.

Buy a Frost & Wood Binder and you'll be able to handle any kind of a crop—tall, short or lodged grain. The hardest work won't discourage it.

It's easy on horses. Carefully fitted Roller Bearings in every working part insure light draft. Eccentric sprocket wheel—a Frost & Wood feature—eliminates strain on the binding attachment parts and makes "smooth" cutting.

A Frost & Wood Binder is sure cutting, sure elevating, doesn't choke or thresh the grain, is sure tying and splendidly finished. Levers are all conveniently placed, so inexperienced or "young" help can operate a Frost & Wood successfully.

Write today for interesting folder to our nearest Branch or see our nearest agent. Built in 5′, 6′, 7′ and 8′ sizes.

THE FROST & WOOD CO., LIMITED,

TRURO ST. JOHN CHARLOTTETOWN

WHY BOYS ARE ENCOURAGED TO LEAVE THE FARM

"Stay in the country where you will have plenty to eat and lots of air," has been the advice handed out to farm people for so long that many a lad without much thought on the matter considers himself doomed, and settles back to receive whatever fate many hand him. His position is fairly secure, and no doubt the arrangement is quite Utopian in nature. However, it is not permanent. When suddenly compelled to take charge of the farm, through some unforeseen circumstance, many a boy has failed to make good. The fault usually lies in either the boy or the father, or both. The chances are the boy has been doing his share of the hand work, but practically none of the head work connected with the farm.

"You take the milk to town," says the father, "and I will set the grain and get things ready so you can sow that wheat when you get back." The boy does as he is told, and has learned nothing new. He dosen't know for sure whether he is sowing six pecks to the acre or twice that amount, although it is a matter of considerable importance in the success of the crop.

Things could be explained as they are being done, but in many cases they are not. Farmers are hustlers. To them it seems a waste of time to have anyone idle. They wouldn't hire a man to whom they had to explain things. If anyone doubts it, let him take a man who can not hook-up a team, out on a farm, and see how long he will stay with some men. Much less would farmers think of allowing their sons to stand around long enough to find out some of the fine points of the business. It is questionable if this is the best way of accomplishing work. The boy's interest in such matter is worth far more than the minutes gained by hurrying them along. Furthermore, there will be more and better work done by the end of the season if the boys are let in on a little of the inside stuff. Boys who are properly interested in their work will not be satisfied otherwise. By merely going through a cycle of motions in doing the chores, not much information can be gained.

There is a limit to specialization, it is being found, and the concentration of the father on the head work and the son on the hand work is not conductive to the development of the boy. The boy who is properly interested will tarry a few seconds when his father says, "John, you water the stock while I mix up the feed," and at least get the principle of the thing. If the father has any objections and can not be made to see the light, the boy may well doubt the feasibility of remaining at home. A young man should get into a work where he can all the time be adding something to his store of knowledge. If farming does not give opportunity for enlargement, there is something the matter with it, or at least with the way it is being conducted.

Is there anything to be learned from the old-fashioned farmer? Many a stockman who has not studied chemistry has the balancing of feeds to perfection. He may know little of carbo-hydrates and proteins, but he does understand palatability and balances his feeds satisfactorily to the animal, which is after all the essential thing.

In the army, officers are expected to have some knowledge of the office next above them; and the principle might well be adopted on the farm, along with some other good business methods—like the keeping of itemized accounts—which are coming to be employed in rural work. The father should let the traces slacken once in a while, and get away from the farm, leaving the responsibility on his son. It would broaden both. There is, of course, little reason why this cannot be done; if the conditions mentoned are not remedied, it is one reason why he boy should leave the farm.

W. J. HOLT,

DON'T OVERDO.

More than half the ill temper and irritability displayed by woman is due to fatigue, not only of the body, but of the nerves. Every woman should learn how advisable it is to rest daily, and to rest in the proper way. After a tiring day, whether it be of housework, looking, after the children shopping, or paying calls, half an hour's rest properly taken will work wonders.

Paroid Roofs First Laid in 1898

NEPONSET **Paroid** ROOFING

Same Roofs Still in Service

PAROID is so good that the name has come to stand for the best kind of roofing. Complimentary, but dangerous! It means that for your own protection you must look for the name Paroid on every roll you buy. Then you are sure of the roofing that is approved by the National Board of Fire Underwriters.

SAVE MONEY

Look for the Roll with the PAROID Label

Once laid, a Paroid roof is weather-proof and fire-resisting for years to come. The saving on repair bills alone ensures the economy of Paroid, to say nothing of the absolute protection to your stock and crops.

3 permanent colors—Red, Grey, and Green.

For your home, use Neponset Twin Shingles.

Look for the Neponset dealer and get genuine satisfaction.

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The Largest Manufacturers of Roofing, Wall Board and Roofing Felt in Canada

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TROUBLES OF THE AMATEUR GARDENER

(Continued from last issue)

Weeds sometimes give a little trouble in the garden. These are very small at first—so small that it does not seem possible that they could ever crowd out the rightful occupants of the garden. In the hot noon sun they seem to have disappered altogether.

But go out early in the morning when the dew is still on and there they are again, making the garden look like a farm. Then no matter what you have to do, get busy with the hoe, for verily the old proverb applies here: "A stitch in time saves nine." But even if there are no weeds to be seen it won't hurt to use the hoe and break up that crust that has formed on the surface of your garden.

Rich Soil Necessary

As a general principle those gar den crops that have the greatest nu tritive value remove from the soil a greater amount of plant food, than those lomer in the scale of foods, peas and beans being an exception to this rule. These plants leave the soil richer in notrogen and therefore do not require supplies of this ele ment.

With the above instance as an exception nitrogen, potash, and phosphates are the foods that must be supplied to the soil.

These elements of plant food which are removed by growth, can be returned to the soil in the variuos kinds of animal waste; manure, different forms of bone, etc., in mineral compounds, green manures, and a very small proportion in the inedible parts of the vegetables grown.

The elements contained in these substances are released as plant food rapidly or gradually according to the form in which they are applied. Where rapid growth is demandeu, fertilizers that decompose rapidly are essential. Of the various kinds of animal waste, poultry manure ranks first is this respect. Its manurial properties can be retained by placing with layers of earth. Stable manure is valuable for later effect after de cay has liberated its elements. It is sometimes very injurious when applied fresh to delicate plants.

This form of manure should be well rotted and applied and worked into the soil before cropping. In addition to this, quick acting fertilizers should be applied as they are needed by the plants.

Quick acting fertilizers whose elements are in proportions suited to different vegetables give satisfactory results with judicious use. These can be best applied by sprinkling on the surface before cultivating. Nitrate of soda, used to stimulate leaf growth is best applied during showery weather. It should not touch the foliage. I have said that peas and beans do not need nitrogen, but they do want lime and potash. Beets want all three. Turnips require large proportions of phosphates and potatoes need potash.

Onions require heavy feeding, with nitrate, potash, and bone meal.

How to Overcome Drought

Besides the damage done in our gardens by insects and plant diseases there is another enemy whose devastation is very marked at times, and this is drought.

If one sets out 100 cabbage plants and the cut worm gets ten of them, root maggot another ten, and caterpillars, etc., ruin another 20, we should be justified in raising a cry against garden pests for the loss would be 40 per cent. But it is a fact that the 60 remaining plants in a wet season would give a greater yield than the whole 100 in a dry season, for each plant would probably only attain half its normal weight. There is not one dry season in fifty that plants in the open garden get all the water they need, and every day they go thirsty, though not enough to check them, means a loos in crop. As this loss is not visible, it usually passes unnoticed. It will be seen therefore that we must not trust to luck and the weather as regards this matter of moisture. Now the two ways to combat this great invasion, drought, is by cultivation and irrigation. Cultivation has much more to do with keeping moisture in the soil than most people imagine.

I have not the space to go into the scientific reason for this. Suffice it to say that water leaves the soil in three ways, by soaking down to the lower levels of the subsoil, by running off the surfae especially on slopes, and by being drawn up into the air by capillary attraction as evaporation. It therefore becomes evident that in our cultivation we must aim to make the soil sponge-like and moisture-holding that its storage capacity may be increased We must also keep mellow surface into which rain will soak quickly when it falls and we must keep the moisture that soaks in from rising to the surface to be evaporated by sun and wind. The first ccndition is attained by deep digging or plowing, the second by deep cultivation with the hoe or harrows, and the third by keeping a fine mulch of loose dust on the surface.

Of the three ways in which water is taken from the soil, two of them usually only care of a surplus that we cannot use, that of evaporation is the one that concerns us. Few people realize the enormous amount oi water that is removed by this means. Throw a can of water on a dry place on a sunny day and see how quickly it disappears—all by evaporation, for if you examine the ground you will find it has not soaked into it. Then figure out how much is being evaporated every hour of every sunny day week after week from your garden.

The way to prevent this is never let a crust form from the day you plant the garden. Especially after every rain should you cultivate.

Now as regards watering. The ordinary watering is worse than useless. Unless enough water is applied to soak down into the soil the results are a crusted, packed surface and roots attracted up to the hot top-soil. Water can be applied either by automatic sprinkler or from the open hose where there is not sufficient force to wash out the soil.

Applied towards evening or in cloudy weather it is most effective.

Avoid watering during hot sun if possible. It is possible to overdo the watering. One good soaking a week should be sufficient, if enough is put on to represent one inch of rainfall, that is one inch deep over a level surface.

NATIONAL SERVICE AND POTATOES

By G. E. Sanders, Dominion Entomological Laboratory, Annapolis Royal, N. S.

In ordinary years the man who planted potatoes and then neglected spraying them and consequently got only half a crop of potatoes that rotted soon after storing, was only regardede as an enemy to himself and family. This year with potatoes seed very scarce and expensive and the prospect of a short crop of all food stuffs, on account of the scarcity of labor and seed, the man who neglects to spray his potatoes is as much a public enemy as the man would be if he dumped a few barrels of seed potatoes over the wharf, in this year of seed famine and impending food shortage.

The entire cost of spraying an acre of potatoes five times in a commercial way is $8.05. In a small way it will perhaps cost one fourth more.

The average increase in yield per acre, caused by spraying, taken over a period of ten years at the N. Y. Exp. Station was 97.5 bushels. Five thorough sprayings on Prince Edwards Island in 1915 gave an increase of 97 bushels per acre. 97 bushels of potatoes for an expenditure of $8.05, or a bushel more of potatoes for every ten cents worth of spraying material used seems almost miraculous in these days of $2 per bushel potatoes, yet that is the opportunity that the man who neglects to increase his crop by spraying is losing.

Potatoes should be sprayed five times with Bordeaux mixture to which a poison is added to kill the bugs.

Preparation of Bordeaux Mixture for Potatoes

Dissolve 6 lbs. of copper sulphate in 20 gals. of water, slake 6 lbs. of fresh stone lime and make up to 2 0gals. of milk of lime. Pour them by alternate buckets into the spray barrel, adding poison either:

4 lbs. lead arsenate
½ lb. paris green
1 lb. arsenate of lime

or some of the proprietary poisons as directed, and spray on the vines.

A shorter and easier method of making Bordeaux is by using the hydrated or prepared lime. In using this proceed as follows: Dissolve 6 lbs. of copper sulphate or bluestone and pour it into the 40 gallon spraying barrel, weigh out 6 lbs. of hydrated lime, fill the barrel nearly full of water, dump the lime powder into the barrel and

"Astonishing how my

Strength and Fitness

came back," says Mr. Inman, a Winnipeg business man, cured by Dr. Cassell's Tablets.

"It was astonishing how my strength and fitness came back," says **Mr. G. C. INMAN, of 330, HARCOURT STREET, STURGEON CREEK, WINNIPEG,** for many years a well-known man in the business life of Canada. Mr. Inman continues: "It is about three years now since I first used Dr. Cassell's Tablets. I was terribly run-down and weak. Sometimes I felt I should have to leave off altogether, my work was such an effort to me, I ate little, I had no appetite, and I suffered if I forced myself to eat.

"My nerves of course were in a bad way, and my sleep very disturbed. Everything, in fact, pointed to a nervous breakdown. It was then a friend told me about Dr. Cassell's Tablets, and I got some to try. The first result was that I could sleep at nights, and then my health rapidly improved. It was really astonishing how my strength and fitness came back.

Mr. G. C. Inman.

"I may add that some time ago my mother was very ill with pernicious anæmia. I urged her to take Dr. Cassell's Tablets, but she would not, so I crushed them down and gave them in food without her knowing. She was confined to bed before she had the Tablets, and now is about again well and bright."

Mr. Inman is now in England, having had to return there some little time ago to take control of the well-known firm of A. W. Inman and Son, Printers and Publishers, Leeds. Letters will reach him there.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

WAS TROUBLED WITH HER LIVER

FOR FIVE YEARS.

When the bowels become constipated the stomach gets out of order, the liver does not work properly, and then follows the violent sick headaches, the sourness of the stomach, belching of wind, heartburn, water brash, biliousness, etc.

Keep your bowels regular by using Milburn's Laxa-Liver Pills. They will clear away all the effete matter which collects in the system and thus do away with constipation and all its allied troubles.

Mrs. John Fitzgerald, Brittania Bay, Ont., writes: "I have been troubled with my stomach and liver for the past five years, and have had constipation causing headache, backache and dizzy spells, and sometimes I would almost fall down. I tried all kinds of remedies without obtaining any relief.

I commenced using Milburn's Laxa-Liver Pills, and they have cured me. I have recommended them to many of my friends, and they are all very much pleased with the results they have obtained from their use."

Milburn's Laxa-Liver Pills, 25c. a vial, 5 vials for $1.00, at all dealers, or mailed direct on receipt of price by THE T. MILBURN CO., LIMITED, Toronto, Ont.

stir rapidly for five minutes. Add the poison and apply to the vines.

Always test Bordeaux with litmus paper, which can be obtained from the druggist. Tear off a piece of the paper and dip it into the solution, if it turns the paper rel, add more lime until it turns the paper blue, which shows that the solution is alkaline and safe to be sprayel on the leaves.

Spray the potatoes for the first time when the plants are 4 to 6 inches high and repeat every ten days or two weeks, depending on the amount of rain. The more rain the oftener they need spray.

Spraying will fncrease the yield and make the potatoes keep. Buyers in large potato districts always discriminate in favour of the sprayed potatoes because they will keep and stand up on the way to market.

If you want 97 more bushels to the acre and potatoes that will not rot, you must spray them thoroughly. And if ever the country as well as the individual wanted such crops of potatoes it is in 1917.

Write to the Division of Botany, Central Experimental Farm, Ottawa, for Circular No. 10, on the Late Blight and Rot of Potatoes.

"HANDY"
LONDON CONCRETE MIXER

Capacity 40 cu. yards per day. Price complete with gasoline engine $225.00. Pays for itself in fifteen days' use. Built to last a lifetime.

Send for catalog No. 1 K.

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World's Largest Manufacturers of Concrete Machinery

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MEDICINE EDUCATION
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HOME STUDY
Arts Course by correspondence. Degree with one year's attendance.

Summer School July and August
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15 GEO. Y. CHOWN, Registrar

THE DANDELION PROBLEM

The dandelion so much lauded and sung by poets is the cause of some anxiety to more practical people. It is getting so common that some otherwise good lawns are a mass of the yellow bloom early in the season, which furnishes seeds enough to invade the province if left to be blown about. There is a laborious way of eradicating the dandelion, by grubbing it out with a small tool made for the purpose. There is such a tool with a long handle which may be used easily by those who dislike to stoop over too much. We have found that the dandelion pulls up very easily when the soil is wet, but it should never be thrown down, as even a fresh blossom will furnish vital seeds for germination wherever it chances to fall or to be blown. Burn all parts of the dandelion if extermination is the object.

Spraying the Dandelion

There is a spray which may be used successfully on this pest as well as on some others—chickweed, narrow dock, etc. A solution of sulphate of iron is destructive to these plants. Use a pound and a half of the sulphate of iron to a gallon of water and spray the infected places with this, using a sprayer that produces a very fine mist. It is best to make this application soon after the grass has been cut and when no rain is likely to come for a reasonable period of time. Surely this is well worth trying and re-trying on badly infested lawns and yards. The dandelion may be destroyed by cutting off just below the surface of the earth, so that the root gets no light whatever, or it may be destroyed by pouring gasoline or kerosene on the crowns, but with this individual treatment one might as well root them out and have it done with. If each person would keep them down on his own precints they would soon be under control if not entirely eradicated, and as soon as the young plants start the spray used in early spring agin would insure a clearance of the pest.

PROTECTION OF CROPS

(Continued from page 529)

nearest of the following sources of expert assistance: The Agricultural Colleges, the Provincial Departments of Agriculture or their local District Representatives, the officer in charge of the nearest Dominion Entomological Station, or direct to the Dominion Entomologist, Department of Agriculture, Ottawa, for examination; and advice in regard to control measures will be furnished without delay. Letters and packages up to 11 ounces in weight may be mailed to the Dominion Entomologist, "Free," but postage will be required on letters or specimens sent to the other sources of advice mentioned.

Do not delay reporting insect outbreaks or sending inquiries; delay may involve serious losses that could otherwise be prevented. Write immediately, or telegraph if the outbreak is serious. **Clean farming, the securing of vigorous growth in young plants and good cultivation are the best protective measures against insect attack.** Keep all crops constantly under supervision for the first appearance of any damage in order that it may be checked without delay. Increased crop production involves increased protection aganst pests.

FEED FOR PIGS AFTER WEANING

"Constant Reader," Sask., writes: "At present grain prices I find it a problem to keep down production costs. Immediately after weaning my pigs go backward. I would like to know what feeds could be given at that period to maintain normal growth. I have no milk for them, and would like to know the best substitutes for milk."

Reply by W. F. Stevens, live stock commissioner for Alberta:—

The substitute which is most nearly like milk and is available on most farms in Canada, is oats. These should be ground sufficiently coarse to permit the hulls to be screened out by means of a screen with about the same size of opening as ordinary mosquito netting. The meal which passes through the netting should be scalded from six to ten hours before feeding, and left to brew until required. When this has been cooled to a temperature of about 90 degrees, it forms a milky fluid, the solid portion of which is easily digested. This should not be fed cold to young animals, particularly during cold weather, because the shock is too great for the tender digestive organs of such animals, and because there is danger that as a result of this shock the glands which secrete the various digestive fluids, especially those of the stomach, will not act properly and indigestion will result therefrom. It is also important that the hulls of oats be separated from the meal and that these should not be fed to young pigs, because they set up an irritation in the digestive organs of animals of such tender age. It is advisable to continue separating the hulls from the meal which is fed to animals of this kind until they are at least three months of age. In pure-bred animals, especially those that are intended for show purposes, it is advisable to continue this practice for at least a month longer.

As regards concentrated foods that have proven to be good substitutes for skimmed milk, I might mention linseed meal and digester tankage. I hesitate, however, to recommend their use to inexperienced feeders, because unless handled very carefully and in moderate quantities their use is likely to be injurious rather than beneficial. When using foods of this kind in connection with moistened food, care must be exercised to see that all of the food supply is eaten up at once, because these foods ferment very rapidly and set up digestive disorders. They should not be mixed in with moist food until immediately before feeding.

I would not advise feeding more than two per cent of the grain allowance of either of these foods at the outset. They can be gradually increased to five per cent and beneficial results obtained, provided care is exercised in handling them. An over-supply of either of these foods is likely to set up digestive disorders from which the animal will be slow to recover. For these reasons I hesitate to recommend them to any but men whom I know to be experienced stockmen.

FARMING CO-OPERATION

Co-operative selling and buying requires no argument to-day to sustain its advantages. The saving in cost of handling large orders instead of numerous small ones is recognized by every business house. The wholesale houses do business on this basis, and are consequently able to sell their goods at much lower prices. The retailer has to break bulk, has many packages to weigh out and parcel up, has many accounts to make out and many orders to record. Over and above these costs is the very large item of delivery. This item is a serious matter in urban centres, but it is much more so in the country for, whether the dealer delivers them or the farmer drives in for his supplies, the cost is there.

In a recent rural survey by the Commission of Conservation, among 100 farmers in one township, it was found that 63 of them lived five miles or more from a shipping point. Of these 63 farmers, not one was either selling his produce or buying his supplies co-operatively. Each farmer was driv this ten miles (5 miles each way) to his market place, covering largely the same ground as his neighbours, using his tem and waggon, his own time and energy. In many instances the great waste of time and energy and the monetary loss due to the smaller business transactions might be materially reduced by extension of the co-operative system.

Earth or clay roads which were at one time impassable for wheel traffic on account of their muddy surface, have after being properly sub-drained, become most satisfactory highways, during all seasons of the year.

Don't Sacrifice Breeding Animals

Maintain and increase breeding herds.

Feed cheap roughages.

Feed live stock as little human food as possible.

Get Rid of the Blues!

A great many people are only half alive. Are you one of them? Exchange that down-and-out, what's-the-use feeling for the strength of better health, abundant nerve force, and keen relish for your meals.

One of Canada's most eminent physicians has expressed the opinion that the systematic keeping clear of the intestinal tract would save hundreds of thousands from that semi-insane state, melancholia.

For this purpose nothing can quite equal Chamberlain's Tablets. They also possess tonic properties which aid in establishing a natural and healthy action of the bowels.

25 cents at all dealers, or from
CHAMBERLAIN MEDICINE CO., TORONTO 42

CHAMBERLAIN'S TABLETS

UNSIGHTLY PIMPLES

COVERED HIS FACE.

B. B. B. Cured Him.

All diseases and blemishes of the skin are caused by the blood being in an impure condition.

The best blood cleansing medicine on the market to-day is Burdock Blood Bitters, a medicine that has been in use for over 40 years. Experiment when you buy it.

IF YOU ARE THINKING OF ATTENDING

Fredericton Business College

next term, NOW is the time to send to us for full particulars, which will be supplied on application.

There is a great demand for young men and women to take the places of those who have gone to the firing line. Address:

W. J. OSBORNE, Prin.
FREDERICTON, - - N. B.

THROUGH CAR SERVICE MONCTON TO LEVIS, VIA EDMUNDSTON—GOOD CONNECTION FOR FREDERICTON.

Summer Time Table Canadian Government Railways.

With the summer time table in effect Sunday, June 10th, passengers will be able to leave Moncton 4.00 p.m., Tuesday, Thursday and Saturday and travel in through car, via Edmundston to Levis, arriving there at 10.25 a. m. the following day. Returning the through ar will leave Levis Monday, Wednesday and Friday, 4.30 p.m., and arrive at Moncton at 12.05 noon, Tuesday, Thursday and Saturday.

By the same trains and on the same days from Moncton there is a good connection at McGivney for Fredericton, passengers arriving in the Capital City at 9.45 p.m. Returning passengers can leave Fredericton at 6.40 a.m. and arrive in Moncton at 12.05, noon, Tuesday, Thursday and Saturday—the quickest time between the two cities, Moncton and Fredericton.

Butter Parchment

Farmer Office

Sussex, N. B.

SHEARING AND DIPPING THE FARM FLOCK

(Continued from page 523)

do this after they have graded it into its proper grades.

In washing wool, I would like to know what is considered a fair shrinkage in the ordinary washing process. The shrinkage is figured at one-quarter, but I have found it much more than that. I have washed wool for others and when I have had it weighed before washing and after drying thoroughly, I have found the shrinkage to be one-third. I have washed wool in soft water and in hard water, and have used soap and soda, and have found no difference in the shrinkage. I have washed wool in a tub and have washed it in a barrel churn, and have found no difference in the shrinkage. I have washed wool in cold water and in warm water, and have found no difference in the shrinkage. I have washed wool in a tub and have washed it in a barrel churn, and have found no difference in the shrinkage.

Mr. Jennings has been a special graders for the Live Stock Division, Ottawa, while grading at Sussex recently he graded a number of fleeces for me. I sent him a pound sample of my wool, and he graded it as follows: Supposing that it was a fair sample of an eight pound fleece and that the prices were those ruling in Sussex on that day, washed 68 cents, unwashed 46 cents. 8 lbs. unwashed wool would be worth $3 68. An 8 pound fleece would shrink when washed to 5 pounds, which at 68 cents per pound would sell for $3.15, a difference of 53 cents in favor of the unwashed wool, to say nothing of the labor saving involved by not washing. Does this saving of labor and money appeal to you? If so, be in line to sell your wool unwashed and through a co-operative organization next year.

GROUND LIMESTONE

(Continued from page 527)

and mower rotation gave equally striking results. The only application of fertilizer in the rotation was made in the spring of 1914, it being a very light one consisting of 140 pounds nitrate of soda, 300 pounds acid phosphate and 100 pounds muriate of potash, per acre. On one series of plots, ground limestone at the rate of 4000 pounds per acre was applied in the spring of 1914. It was not to be expected that there would be much hay crop in 1916, as the plant food had all been used by the potato and the grain crop previously.

The following yields were obtained from the 1914 crop potatoes: unlimed, fertilized, 76 bus. 13 lbs. per acre; limed, fertilized, 86 bus. 45 lbs.

The yields for the 1915 crop oats, were: unlimed, fertilized, 31 bus. 24 lbs.; limed, fertilized, 38 bus. 14 lbs. per acre.

In 1916 the clover yields were: unlimed, fertilized, 675 lbs. per acre; limed, fertilized, 1483 lbs.

On one field of ten acres put down to clover in 1915, which was in corn in 1914, having been manured at the rate of 15 tons manure per acre for the corn, the gain from 1½ tons of ground limestone per acre, indicated an increase of fifteen tons on the ten acres over check plots left on the area unlimed. The limed areas yielded 5410 lbs. per acre, and the unlimed, 2400 lbs., a difference of 3010 lbs. per acre in favour of liming, or 15 tons clover hay at $10 per ton, $150. The fifteen tons of ground limestone cost approximately $6 per ton, or $90, leaving $60 or $4 per acre in favour of the limed soil

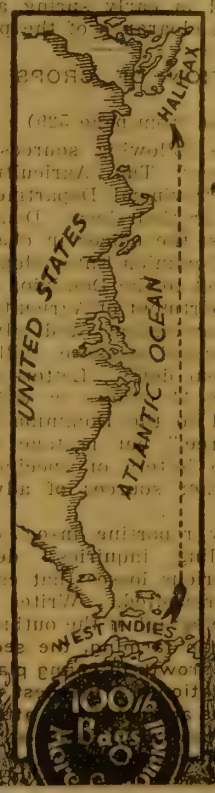
DUNLOP

Tire Mileage Achievements

SOME motorists think they have tires which are making great mileage records. Later these motorists meet users of Dunlop Tires. Then they get a *new conception* of what is possible in tire mileage.

"SPECIAL" TIRES "TRACTION"

A study of the effect of temperature and rainfall upon the yield of potatoes in Ohio, Michigan and New Jersey is reported, showing that the temperature of July is the most important factor in those States. A cool July is most favorable.



Raw Sugar Direct from British West Indies

The raw cane is brought direct to our refinery docks at Halifax where one of the most modern sugar plants in the world makes it ready for market.

ROYAL ACADIA SUGAR

"Every Grain Pure Cane"

The 100-pound bag was never a more advisable purchase than now because of economy and convenience. Royal Acadia Sugar is also obtainable in 2 and 5 pound cartons, 10, 20 and 100 pound bags, half barrels and barrels.

ACADIA SUGAR REFINING CO., Ltd.
Halifax, N.S. Canada

METAL ROOFING FOR FARM BUILDINGS

The distinct advantages of Sheet Metal coverings for buildings of all classes has rapidly brought them to the fore during recent years, especially so because of the development of mechanical appliances to perfect the manufacture of various types of Metal Shingles, Siding, Etc. Formerly, however, the wood shingle was the most popular on account of its cheapness and handiness. Many buildings were covered with wood shingles, and labor-saving machinery was used to manufacture the shingles by sawing them from blocks of wood. There are yet many districts in the Country where split or shaved cedar shingles were applied forty years ago. These shingles were generally about four inches thick and the sun and weather have reduced the thickness of the exposed portion of these shingles to that of cardboard. Under the natural tendency of things, however, the days of split or shaved cedar shingles are passed and in recent years and toward the latter quarter of the 19th century, shingles became the product of the saw mill, and manufacturers of shingles were not very particular as to the kind of stock they used and employed butts and all kinds of sappy stock, and the outcome of all this was that the shingles were put on the market at a price that commanded trade, but gave little satisfaction. The far-seeing farmer, however, when he could afford it employed steel and it was a common thing and is becoming a universal practice to use metal in some form for covering their buildings.

Until recent years a galvanized iron roof was a luxury, but the introductions of modern machinery has reduced the cost of galvanizing to a minimum, and through the perfection of up-to-date machinery many safe and prosperous firms in Canada have been able to put on the market a very substantial and practically everlasting roof in the form of Metal Shingles at a very moderate cost.

The great feature about the Metal Shingle and Roofing is that it does not take an expert workman to apply it. Any unskilled buyer with a moderate degree of adaptability, a pair of snips and a hamer, can apply these up-to-date shingles and Roofings and Sidings.

The greatest Virtue of the Metal covering and one recognized by Insurance Companies is that the risk from fire and lightning is minimized by the use of metal roofing. They now offer the farmers special inducements in the way of reduced premiums to encourage the use of galvanized iron covering. The people themselves recognizing the opinion of the best authorities soon found that a building covered with an iron roof, which roof was properly connected to the ground by a water-spout or even a wire contact, was absolutely proof against a lightning bolt. They also recognized that burning embers from another fire lighting on a metal roof did no damage whatever, and all these factors lead to a larger consumption and use of metal roofing to such an extent that the wooden shingle fire hazard is being steadily eliminated.

Another important factor in favor of the Metal Shingle and Roofing is the weight. Wooden Shingles would average about 250 lbs. to the 100 sq. ft. Slate would average about 600 lbs. whereas a first class Metal Roof will not average 100 lbs. thereby lessening the needed strength of the superstructure and trusses. Likewise, it has been proved beyond any shadow of doubt that heavy and wet snow will not remain on sloping metal roofs whereas it will attach itself to wood averages sometimes 50 lbs. to the square foot.

The Metal Shingle of to-day is the last word in roof covering, it is rain-proof, fire-proof, lightning-proof, frost-proof; all nails used to apply a metal shingle roof are covered up with the succeeding sheet, which prevents the snow and frost from causing any disturbance, the sheets are fitted with locks which give ample room for contraction and expansion, and metal shingles are giving the same degree of satisfaction to-day, as they did when applied nearly thirty years ago. In addition to the metal shingle there are various other types of metal roofing such as corrugated iron, V crimp and roll roofings, all of which give ended protection to the building on which they are applied.

When speaking of durability of a metal roof, galvanized materials only are referred to. Farmers in this country nearly twenty years ago applied painted Roofing, and the repainting of this roofing, which in some cases should have been an annual affair, was neglected, and the consequence was that corrosion set in and their roofs rapidly deteriorated, but this is not the case with Galvanized Roofing.

In the Rural Municipalities, where sulpharous acid gases are not prevalent, a Galvanized Roof made of good material and properly applied should give satisfaction for half a century at least, in fact, it will give satisfaction—the test of time has proven so.

In the march of progress, many of the up-to-date farmers recognizing the superior qualities of metal over wood are now adopting as a safeguard against fire, lightning and decay many forms of sheet metal products such as metal roofings, sidings, ventilators, silo covers, etc., thus reducing risk as well as maintenance cost.

FIRST AID IN ACCIDENT CASES IN FARM HOMES

In every home there should be kept, where it can be readily found in case of accident, a box containing various simple remedies and other articles likely to be needed, if one of the family should be injured and the physician delayed, or if the injury should be so slight that the expense of a physician may be unnecessary if the patient receives intelligent and prompt attention.

In the "emergency box" should be kept a supply of bandages of different sizes and widths, and bundles of absorbent cotton, large squares of soft old linen, and a collection of worn-out linen handkerchiefs. The bandages may be bought in a large box from a druggist or the family physician, or they may be made at home. If they are to be made, everything about the work must be absolutely clean, or there is danger of infection. Tear into lengths an old sheet, having the strips from two to four inches wide. Pull out all the threads that ravel from the edges, and then roll tightly into little rolls, and fasten the ends. These should be kept in a small box or in a large mouthed glass jar.

Arnica, witch-hazel, some true and tried liniment and as good a corn-cure should be kept in the box; also a jar of cold-cream, another of vaseline, a package of bicarbonate of soda (for slight burns), a bottle of olive-oil (to use with the soda), and such toothache remedies as seem efficacious. Of these, spirits of camphor or oil of cloves mixed with an equal quantity of either or chloroform are perhaps as good as any. A pair of small chop-bags, made from empty salt-bags filled with the hops that can be purchased by the package, are excellent for an attack of neuralgia. These should be kept in one of the

FLEET FOOT
Shoes on the Farm
The farmer does not have to spend his hard-earned profits on expensive leather boots, these days. He and his Wife wear FLEET FOOT SHOES. Easy on the feet and the pocketbook; light, springy, sturdy, comfortable, sensible, inexpensive.
Banish hot, heavy leather boots—and wear easy FLEET FOOT SHOES this summer.
Your dealer has, or will get, the styles you should wear.
DOMINION
RUBBER SYSTEM
AND ASSOCIATED COMPANIES
EVERYDAY
209
ATHLETE BAL

the entire contents of the larger box.

Salt-bags are also good for pain, and are made by half filling two small-size bags with salt. These bags are to be placed in the oven on a pan, and heated alternately, then applied to the seat of the pain. Pieces of flannel that can be wrung out of hot water should also be kept in the box, where they may be found at once if the small boy of the family has been indulging in green apples or other forbidden fruit, or for colic to which many adults are subject.

The coarse salt-bags are also useful for making poultices on for filling with cracked ice if an ice pack is prescribed. The bags should be washed out as soon as they are empty, and put carefully away in a small box.

In a glass fruit-jar should be kept flaxseed, and in another hop-leaves, for use in making poultices when required.

Always spread a poultice with vaseline before applying it, so that it will not blister the skin.

No home should be without a remedy for burns, but a burn that is at all serious should at once receive the attention of a physician. For slight burns a bottle of collodion is best of all, for it forms a coating over the wound, which keeps out the air. It is the air striking on the burnt place that makes it smart. If the other until the burn is well covered from the air will allay the pain. Collodion is inflammable, and will evaporate if allowed to remain uncorked.

For really serious burns the following ointment is to be recommended: Pound one ounce of gum camphor in a mortar until it is reduced to a powder, then mix thoroughly with two tablespoonfuls of fresh lard until it forms a salve; turn it into a glass or porcelain ointment-jar, and keep tightly covered. This salve is said to prevent scars if applied immediately after the accident occurs. If one is far from a physician, and there is doubt about securing his services at once, apply the salve freely to the wound and to the surrounding surface of the skin, and then cover closely with cotton wool. If there is nothing better at hand, mix carbonate of soda with olive-oil, spread on cloths, which should be saturated with it, and gently press over the burn; then wrap in cotton wool, to exclude the air, and await the arrival of the physician.

For slight hoarseness and cold on the chest give vaseline mixed with sugar, and rub the chest with turpentine and vaseline of turpentine and lard. If the children come home from school with symptoms of an oncoming cold give them six or eight drops of

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorchester, N. B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

STRAWBERRY PLANTS AND OTHER NURSERY STOCK

also

EGGS FOR HATCHING

S. C. White Leghorns

The Ideal Farmer's Fowl. Layers of big white eggs and lots of them. Eggs $2.00 per 30.

Barred Plymouth Rocks

One pen choice birds. Eggs $2.00 per 30.

Send for Price List.

We also have pure bred Jersey bull calf for sale, from imported cow.

ORCHARD HILL FARM,
Brown's Flats, - - - N. B.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

SEAMAN and STEWART
OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

BARGAINS !

I will sell, after 5th of June, all my breeding Hens (about 100), 20 Roosters and 200 eight-weeks'-old Cockerels. Prices:

Hens, 75c each. Roosters, $1.00 each.
Cockerels, 30c each.

ERNEST CRAZE,
Rosewarne Poultry Farm. Port Williams, N. S

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

Eggs for Hatching

From two pens of pure bred White Wyandottes, parent stock from Martin and Beulah Farm strains. Also from one pen of Single Comb Rhode Island Reds, good laying strain, good color. Price $1.25 per 15.

HATTIE E. CROWE,
Lower Truro, - - - N. S.

Try anAd in the FARMER

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The address must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issue. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

GUERNSEYS FOR SALE—1 bull 16 months old, also several bull and heifer calves. We have more R. O. P. cows than any Guernsey herd in Canada. D. G. McKAY & SON, Scotsburn. N. S.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

PORTRAIT AGENTS WANTED.—Send for catalogue. Prints Solar and Bromide. Finished portraits, convex or flat, frames, glass and all supplies.—MERCHANTS' PORTRAIT COMPANY, Toronto.

FOR SALE—Pure bred registered red Shorthorn Bull, Parkhurst Boy No. 101226, calved June 11th, 1915; milking strain; excellent individual; nice disposition from line of first rate performers. For further information apply to W. E. READ, Bear River, N. S.

MAN WANTED ON DAIRY FARM—Man who thoroughly understands farming and is capable of either taking charge of barns or who can handle team doing farm work. Good wages to good man. Apply, giving references, to NOVA SCOTIA FARMER, care of Maritime Farmer.

STOCK FOR SALE—My entire stock of White Leghorns; Barred Rocks; White Wyandottes; Golden Wyandottes. Nearly all yearling birds. Write for description and prices. Also 1 Cycle Hatcher and Brooder 50 egg size $5.00, 1 Buckeye Fireless Brooder new 50 chicken size $3.00. VICTOR G. FULLER, Amherst, N. S.

PURE BRED JERSEY BULL FOR SALE !

Will be 2 years old in September, 1917. Sire Foxhall's St. John O'Dreamwold, whose sire and dam were imported from the island of Jersey, the latter having an official record of over 10,000 lbs. of milk in a year. For full particulars write

WM. S. ALLISON,
Kingshurst, Farm, Rothesay, Kings Co., N. B.

NOTICE

The attention of owners of stallions is drawn to "An Act to Provide for the Inspection and Registration of Stallions," 5th George V., Cap. 18, and 6th George V., Cap. 44, under which all stallions travelled or offered for service must be enrolled at the Department of Agriculture on or before the 1st day of May, 1917.

Inspectors will be appointed by the Department, to report on each animal before a certificate is issued. Evidence of breeding and ownership must be submitted and a fee of $2.00 forwarded with application.

Further information can be obtained by applying to

Department of Agriculture
Fredericton, N. B.

In the list of semi official Records of Holstein Truesiam cows completing yearly records from April 1st to April 30th, 1917 we find the following cows in the mature class:—

Iosco Posch, 9683 aged 7 years, owned by D. R. Nicholson, Coxheath, N. S. with a record of 14848 lbs milk yielding 402 lbs. fat the equivalent of 502.5 lbs butter 80 p. c. fat and Jacoba Emily Drkol, 11071, aged 7 years, owned by J. H. Stockton, Woodstock, N. B. record 13.502 lbs milk, 432 lbs. fat, the equivalent of 540 lbs butter 80 p. c. fat.

A BOUNTY TO CROP PRODUCERS

To any farming community within this province which desires it independence of foreing supplies of Clover Seed, the New Brunswicw Department of Agriculture offers the use of a clover-thresher.

This machine was operated in Carleton County last year, where it threshed approximately three hundred bushels of Red Clover Seed.

The charges for threshing include only the cost of operating during the actual running time of the machine, which, last year was one dollar and thirty-seven cents per hour.

The capacity of the machine is two tons of clover hay per hour, yielding approximately seventy-five to ninety pounds per ton.

The Department provides two men to operate the outfit; all extra help required is to be supplied by the person for whom the threshing is done.

Terms and Conditions

1. Any Agricultural Society or group of five or more farmers having a minimum of ten acres of clover intended for threshing, may apply for the threshing outfit.

2. An application from the Agricultural Society must be signed by the president and secretary.

3. An application from a group must be signed by at least five bona fide farmers, having clover for threshing aggregating ten acres or more, who shall appoint one of their number to make the necessary arrangements with the Department of Agriculture.

4. Applicants must agree to the following conditions:—

(a) To have the clover crop cut and in condition for threshing. This will in most instances necessitate storing the crop.

(b) To provide transportation of the threshing outfit to and from the nearest railway centre.

(c) To transport to the machine the material to be threshed and remove the straw when necessary, as the operator shall direct, and to transport any gasoline or water required for the engine.

Time for Harvesting

Seed formation of common Red Clover in the early stages of growth can be readily observed by cutting the flower heads, lengthwise and to one side with a sharp knife. The seed bearing heads later become plump and brown, and may be detected if squeezed between the thumb and finger, or they may be shelled out in the hand. When observed in any large proportion of flower heads, a profitable seed crop is assured whether occuring in first or second crop.

Cutting should not commence until the seeds are quite firm and well colored; (which corresponds to the late dough stage in corn.)

Harvesting the seed crop is accomplished by cutting with a mower when the growth is excessively heavy, or by a self-rake reaper, or even a binder, with or without the trying apparatus, but perferable without. A table attachment, or buncher, is made by some farm machinery companies, attachable to their mowing machines, which work well where the crop is not heavy.

About ten days are required to properly cure the crop. The bunches should be frequently turned to assist the drying, and the crop should be stored in a dry mow.

Clover is well termed "The corner stone of Agriculture," for without it there can be no permanency to our type of farming. It acts as the miller and baker for other crops and is indispensable to a permanent agriculture.

All inquiries for further particulars relating to the production or threshing of Clover Seed, will receive attention by applying to the Secretary of the Department of Agriculture, Fredericton, N. B.

A can of mustard should find a place in the emergency box, as well as court-plaster and plasters of other kinds.

R. O. P. HOLSTEINS !

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. P. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

Do You Want It ?

One 200 Egg Peerless Incubator also Brooder to match. These were only used for two hatches and are in every way first class. Write and find out all about this chance if you are interested. Remember there is a bargain for somebody—it may be you.

T. J. HAWKINS,
Stewiacke, Col. Co., N. S.

BUTTER PARCHMENT

PRINTED OR PLAIN

At THE FARMER OFFICE

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, JULY 10, 1917. Number 19.

No Permanent Road Without Good Drainage and Sound Foundation

Spend Money on These and the Surface Will Look After Itself.

Address by Geo. Hogarth, O.L.S., A.M., Can, Soc. C.E., Before the Dominion Good Roads Congress

In building any roadway whether for light or heavy traffic two of the most important points to be considered are drainage and foundations.

The stability of the entire road surface depends upon the foundations and the strength and life of the foundation largely depends upon the facilities provided for drainage. While proper attention may be given to the drainage of the surface of the road by giving the roadway sufficient crown to shed the water, the great importance of subsurface drainage may be entirely overlooked. There are, therefore, surface methods of drainage and subsurface methods of drainage and the importance of each must be realized and used to the fullest extent if we desire a permanent foundation. A sound and enduring foundation cannot be secured on subsoil saturated with water, but a good foundation can be secured by the simple means of keeping the subsoil dry. If water is not excluded from the foundation it will sooner or later destroy the road surfacing, since no road ever built could escape destruction should the foundation become yielding and soft.

The ordinary clays and earths form a naturally strong foundation when dry, but where the ground is wet and springy a good road cannot be constructed without proper subdrainage since when wet, the earth loses its sustaining power and the surface formation goes to pieces. Where the subsoil is gravelly, underdrains will usually not be required, but where it is sandy, give close attention to the damp or wet spots and provide ample subdrainage.

It may be said that the whole problem of provement and maintenance of ordinary country roads is one of drainage. Upon earth roads drainage is especially important because the material of the road surface is very susceptible to the action of water and so, more readily destroyed than are the surfaces of the better class of roads. An undrained earth road offers a splendid opportunity to the frost, and a spring thaw may result in such a road being impassable for days and weeks. A road on a wet undrained bottom will always be troublesome and expensive to maintain and it will be economical in the long run to go to considerable expense in making the drainage of the subsoil as perfect as possible.

There are three systems of drainage namely; underdrainage, side ditches, and surface drainage and the objects of each will be stated:

Underdrainage will lower the water level in the soil and keep it at a safe distance from the foundations. This aids the action of the sun and wind, which tends to dry the surface of the road, but if the foundation due to lack of underdrainage, is soft and spongy, the road will soon become a mass of mud.

Underdrainage dries the ground quickly during the spring when otherwise a saturated condition of the soil would exist.

Underdrainage intercepts the subsurface flow of water beneath the crust of the road.

In many cases it will be noticed that though the ground is dry when it freezes in the fall, it is very wet and boggy in the spring when the frost comes out. The reason for this condition is that after the ground freezes, water rises slowly in the soil and if it is not drawn off by underdrainage it saturates the subsoil and rises further as the frost goes out. Underdrainage not only removes the water but reduces and will in many cases prevent the destructive heaving effects of frost.

The heaving and cracking of pavements may be entirely attributed to the freezing of water in the subgrade under the pavement. Underdrainage will greatly lessen the damage done in this way by the frost but to entirely prevent such destructive action may be very difficult. It may be said that when underdraining a section of road known to have a wet subgrade it is well to provide a liberal number of drains. Too many cannot be laid. Particular attention to the underdrainage should be given at points on the road from 50 to 200 feet or more down grade from the top of the hill or slope and particularly so if the roadway is in excavation. Water will usually filter out to the surface at such points and the entire skill of the roadbuilder will have to be exercised in locating subdrainage to prevent heaving and cracking. In all such cases do not curtail the underdrainage but rather put in every foot of tile that can be placed.

Wherever underdrainage is provided be careful to provide proper grade and good outlet for the tile since poor results will come from tile that are indifferently laid and improperly vented.

Tile drains furnish the usual means for subdrainage, but in some cases a blind drain may be used to good advantage. The construction of a blind drain is accomplished by opening a trench several feet deep along or across the road and afterwards filling the trench with stone. The depth, distance apart, and location of such trenches will depend entirely upon the conditions encountered and the result desired.

Careful attention to the subdrainage of the road is of great importance and money spent for such work is always a splendid investment.

Side ditches for all country roads are essential. Their object is to receive the water from the surface of the travelled roadway and the grade of the ditch should be such that the water is carried rapidly to a good outlet. Such ditches also intercept and carry away water that would otherwise flow from the side hills upon the road. Side ditches need not be very deep, a depth of 2½ or 3½ feet below the crown of the roadways will usually be found sufficient and the sides should be given a slope flat enough to prevent caving. In order to be effective, ditches should have as great a grade as possible, they should be well cleaned out and have free outlet in some creek or stream.

Surface drainage of the traveled portion of the road affects mainly the maintenance of the road and is accomplished by giving the road or pavement surface a crown whic htends to shed the water to the side ditches. The slope of the crown should be sufficient to carry the water freely and quickly to the side ditch. The proper crown to use will vary with the nature of the roadway; when a good surface is maintained a moderate rise will be found sufficient. For earth, clay or gravel roads a usual crown is one inch per foot while for bituminous or concrete pavements ½ or ¼ of an inch per foot is ample.

FOUNDATIONS

While drainage is undoubtedly one of the first essentials of good highways, the foundation of a road is also of great importance and one of the first substantial advances in road building was made when the laying of a course of stone for the base of a road was adopted.

The foundation of a road should normally last a number of years while the cost of maintenance should be for replacing and renewing the worn out surface. Such conditions are difficult to obtain since the foundation of 4 inches of crushed stone today may be entirely inadequate, tomorrow under more severe traffic. The heavy loads using our highways today require an abundance of material in the foundation of the roads and if our work is to be enduring we must see to it that strong and sound foundations are provided.

Frequently the taxpayer may enquire as to why so much material is required in a road and a demand will be made for more surface with a smaller amount of stone hidden in the foundation. Such an enquiry loses weight when the same ratepayer states that a concrete road 6 inches thick is too heavy and his idea of a concrete road is a surface of concrete about an inch thick spread over the entire space between the fences.

Roads built only a few years ago are in many cases in poor condition or destroyed today because a shallow, weak foundation was provided. Improved roads naturally draw traffic and people will go miles out of their way in order to travel over a section of good road. This fact should be given full consideration in designing a road and any traffic census made prior to reconstruction should be considerably increased in order to estimate the travel on the improved surface. A road is not rebuilt to provide only for present traffic but it is rebuilt to carry present traffic together with whatever vehicles may use it when improved and in some cases it may be found that the traffic on an improved road immediately after reconstruction is ten or more times the original number of vehicles using the road.

The strength of the faundation of a road is greatly affected by the supporting power of the different soils and in order to obtain a road surface having a uniform resistance the thickness of the crust will need to be varied. A greater depth of foundation will be required on clay than on gravel, and for soils of intermediate strength a varying thickness will be required. Soils of poor supporting power will carry safely a load of about 600 pounds per square foot, while gravel subsoil is safe under a loading of about 3,'00 pounds per square foot.

Many kinds of foundation courses are available in the construction of roads, such as: Crushed stone, screened gravel, pit gravel, field stone, quarry stone of Telford. Before placing a foundation course the subgrade should be properly rolled in order to solidify the surface and prevent the material of the foundation being forced into the soil. This point is as important with a gravel road as it is with more permanent types of construction. A smaller amount of crushed stone or gravel will be required to build the foundation of a road on a consolidated

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SWEET CLOVER---THE TRUTH

By M. O. Malte, Ph. D.

During the last twelve months or so the interest in Sweet Clover, shown by farmers in different parts of Canada, has assumed surprising proportions. Numerous articles in the agricultural press and still more numerous 'letters to the editors' of the agricultural papers have discussed the sweet clover question, but so far no definite conclusions as to the merits or demerits of the sweet clover have been arrived at.

A certain number of the writers cannot condemn it strongly enough claiming that it is a 'nuisance' and a 'pest' which when introduced on a farm will spread beyond control and which will lessen the value of the farms. Instances have been quoted, in which the selling price of farms has dropped as much as two thousand dollars on account of their being overrun by sweet clover, wilfully introduced by their owners.

On the other hand a great number of writers are enthusiasts who look upon sweet clover as a forage crop of extraordinary value which, unfortunately, has been misjudged and altogether underestimated in Canada. Articles have appeared in which the writers remark that "colleges across the border are loud in its praise' and that it is a 'staple crop in Europe,' etc.

The result of these contradictory statements is that the unfortunate farmer who is unfamiliar with the plant in question is at a loss as to its real value.

In the following paragraphs a few facts will be given which, it is hoped, will help to clear the situation.

Varieties

Under the name of Sweet clover are recognized a number of leguminous plants characterized by a very pronounced sweet odour. They all belong to the same genus, viz: Melilotus, and are often called melilots. Although called sweet clover, they have not much in common with the true clovers, represented by the Red, White and Alsike varities. As a matter of fact, they are more related to alfalfa than to any other leguminous plant.

There are two varieties of sweet clover in Canada, the white and the yellow. The former (Melilotus alba) is the more common and is considered somewhat superior to the latter (Melilotus officinalis). Both these sweet clovers are biennial, i.e. live two years.

A third variety, called Melilotus indica, is a small annual plant, which is grown in California, Utah and other western states of the Union.

In Canada, only the White Sweet Clover is of any agricultural interest.

Origin and Distribution of White Sweet Clover.

White Sweet Clover, also called Bokhara Clover, is a native of Asia. It was introduced into Europe over two thousand years ago and was brought to America about the middle of the eighteenth century. In Canada it is now found quite commonly, especially in the eastern provinces.

Requirements as to Soil.

Sweet clover can be grown successfully on almost any kind of soil. It is often found in sterile, dry places where nothing else will grow on account of lack of food. It will thrive surprisingly well in sandy fields, on stiff clay, in sour soil, on alkali land and in many other places where most farm crops prove a failure. This ability to live and, in fact, to do well in soil where the food supply is scant, is largely responsible for the glowing praise bestowed upon sweet clover during recent years.

Sweet Clover as a Soil Improver

Like most other biennial plants, sweet clover develcps a strong and somewhat fleshy tap root which penetrates the ground to a considerable depth. Its numerous branches break through even very compact soil, thus makiny it porous and penetrable to air and water. The fleshy nature of the taproots makes them decay readily when the plants, after the end of the second year, die. Considerable humus can also be added to the soil by incorporatinp with it the rathor rank top growth.

For these reasons Sweet Clover is no doubt of great value on old, worn-out land and on soil the mechanical condition of which needs improfing.

Like other leguminous plants Sweet Clover through the assistance of certain bacteria has the faculty of gathering nitrogen from the air circulating in the soil. Soil deficient in nitrogen will consequently be improved through the growing of Sweet clover.

In this connection it must be mentioned that the bacteria occurring on the roots of Sweet clovor, seem to be identical with those occurring on the roots of alfalfa. At any rate, they act in exactly the same way as the alfalfa bacteria, and soil from a sweet clover field can therefore be used to advantage for inoculation of fields prepared for alfalfa. For the same reason, sweet clover can be used, on poor soil, as a preparatory crop for alfalfa.

Attractiveness to Stock

One of the most serious objections raised against sweet clover is the statement that farm anmals do not like it and that they cannot be induced to eat it unless starved. Its distastefulness to stock is, as is well known, due o the presence of a bitter element, called cumarin, which is especially noticeable in the wild plants.

On the other hand, it has been claimed that animals are very fond of it and prefer it to other kinds of fodder.

Observations made by the writer indicate that cattle and horses at least carefully avoid sweet clover in pastures, where other plants are at hand, and that, to most animals, the hay is far from attractive. But domestic animals, like human beings, can develop a taste for and grow very fond of food which they at first refuse to touch. Whether animals, unfamiliar with sweet clover, will like it or not from the beginning also depends upon what time of the year they be pastured on it. If turned on to it early in the spring when the plants are very juicy and tender, they will have less objection to it than later when the plants are better developed. This is due not only to the fact that early in the spring the animals are hungry for green feed, but also because that the young plants contain a much smaller amount of cumarin than the older ones and consequently are less bitter.

Sweet Clover for Hay and Pasture

As a hay crop, sweet clover cannot compete with alfalfa. Full crops can be relied upon only every second year, whereas a well-establishes alfalfa field will yield large crops during many consecutive years. In feeding value it is also inferior to alfalfa, holding less protein and less carbonhydrates than the latter. Where alfalfa can be grown with reasonable success, sweet clover should, therefore, by no means be introduced.

The principal advantage of sweet clover for pasture lies in its ability to shoot very early in the spring, to remain green during periods of prolonged drought, to continue growth until late in the fall, and to stand close grazing well. As a rule there is no danger of sweet clover producing bloating. But even with all these good qualities it is doubtful whether it will ever be of general importance as a pasture crop in any part of Canada. It will be useful only on soils too poor for other pastures.

The statement sometimes made that, in Europe, sweet clover has been cultivated for hundreds of years as a staple crop for hay and pasture, has no foundation whatever. As a matter of fact, it is, in Europe, generally looked upon as a weed pure and simple.

Objections to Sweet Clover

Apart from what already has been said against sweet clover, there are a few other objections of a more serious nature, which should be given due and careful consideration by farmers before they decide to introduce sweet clover as a farm crop.

Character of the Weed.

It is often claimed that sweet clover, on account of being a biennial plant, cannot assume the character of a weed, if properly handled. Being a biennial it lives only two years and if the plants are prevented from going to seed the second year, there should be no danger of sweet clover spreading all over the farm.

Theoretically this is perfectly correct and sounds well, but in practice it turns out to be quite different.

The writer goes so far as to say that sweet clover, when once introduced on a farm, will prove almost impossible to get rid of, no matter what precaution be taken. Many a farmer, believing that he had destroyed every sweet clover plant on his farm before it had had any chance to set seeds, has been painfully surprised to discover that, in spite of all, sweet clover suddenly appeared in the most unexpected places. In practice even the most careful eradicative methods and the most careful effort to prevent it from going to seed have too often proven in vain. Over and over again it has been discovered that seed, in spite of the most careful attention, has been developed and dropped to the ground. Only a few such overlooked seed will be sufficient to start a weed crop which very soon will prove detrimental to a well managed farm.

Even granting that sweet clover may be checked or quite suppressed in well cultivated and clean-kept fields, there are always places on a farm where sweet clover, once introduced, is apt to take a firm foothold. Along roadsides, fences, ditches, etc., where it is not properly looked after, it will have an ample opportunity to produce an abundance of seed which, by wind and water, will be carried over the farm and rapidly infest whole districts.

Menace to Alfalfa-Seed Producing Districts

On worn-out soils or in districts where absolutely no other leguminous forage crop can be raised, the nuisance character of sweet clover may be counterbalanced by its good qualities. But in good or even medium agricultural districts, where clean farms and clean seed are essential to the success of farming, the weed characters of sweet clover make it utterly objectionable.

This is especially the case in those districts of Canada where alfalfa seed raising looks promising or has already proven a succes.

The young sweet clover plant is very much like the young alfalfa plant and the average farmer will not be able to tell the difference. When the plants have developed blossoms the difference first becomes noticeable. In alfalfa seed growing districts where sweet clover grows as a weed in waste places and similar localities, the farmers lways run the risk of having their seed field infested with the same, the result being, of course, that the alfalfa seed, harvested from the infested field, will contain more or less sweet clover seed.

The seed of sweet clover is very similar to alfalfa seed, in fact so similar to it in general appearance that even experienced seed analysts often fail to detect it when mixed with alfalfa. This being the case, the alfalfa seed growers, maybe unknowingly, may put on the market alfalfa seed contaminated with sweet clover. That 'accidents' of this kind most necessarily will hurt the reputation of the whole seed growing district and the alfalfa seed industry of Canada in general needs no special explanation.

The danger of getting alfalfa fields infested with sweet clover is especially grave in irrigated districts. It will grow abundantly and luxuriantly along the irrigation ditches, and produce large quantities of seed which will be dropped into the ditches and carried by the water all over the irrigated area. This rapid spreading through the irrigating waters has caused a number of the irrigated States in the American west to look upon sweet clover as a troublesome weed.

ALFALFA TIPS

Plan to do everything quick when you work with alfalfa.

Cutting should commence when 10 per cent. of the plants are in bloom. As soon as the green sprouts begin to show at the roots of the alfalfa there is nothing to be gained by leaving it stand any longer.

Under no condition should alfalfa be raked, bunched or stored while it is wet with dew or rain. If this is done it is liable to heat.

Cut alfalfa on a day that promises to be fair. Set the mower bar so that it will cut high enough to not injure the young shoots. If rain prevents the cutting of the crop until the shoots are longer, set the cutting bar higher still. Clipping off these fresh growths delays the development of the following crop.

In harvesting alfalfa three things should be remembered: First, that its feeding value is greatest if cut just after blooming has commenced; second, that the leaves which fall oc with the slightest provocation when dry contain by far the most valuable part of the crop, and third, that rains not only discolor the crop and make it less palatable and less digestible but also remove in solution much of the nutritious part of the fodder.

In order to save the greatest part of the leaves the curing of alfalfa in cocks is recommended. It takes more time but makes far better hay. Rake shortly after cutting and bunch immediately. It may be necessary to turn the bunches out a few hours before stacking to let the lower layer next the ground dry out. Do not make the bunches too big; they may mould and heat.

The curing process that goes on after the alfalfa is cut is quite remarkable. Neither the leaves nor the stems are dead. The life processes of the plant continue and the moisture moves up the stem to the leaves, resulting in a uniform drying of the hay. The leaves act as pumps in their dying attempts to secure more moisture.

When hay has been stored in the mow or the stack after being thoroughly cured in the cock it will retain its bright green color. If it is stored a little on the green side, while the stems still contain a considerable amount of plant juice, heating and fermentation occur in the stack and a very aromatic and palatable brown hay results. It should not, however, be stored so green that it will heat or mould.

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THE FEEDING OF SWINE

By G. B. Ruthwell, B.S.A., Assistant Animal Husbandman

Anticipating the needs of the near future with regard to meat of all classes, it is apparent that the relation of supply and demand will be such as to make imperative, heavily increased production. That this increased supply should be of a rapidly available nature is peculiarly desirable under the conditions that apply to the nation at war. In this connection swine may be bred, fed and marketed with greater despatch and in greater numbers than any other farm animal now contributing to the great meat-markets. Heavy home consumption and tremendously increased export trade make a permanently profitable market certain, if the opportunity is realized and grasped.

To the farmer, who with profit to himself and country wishes to accelerate his endeavour in solving one of the nation's war-time problems, the following pages may prove of interest.

Feeding and Management

In the consideration of feeds for the production of cheap pork, choice is largely influenced by locality, season and local conditions. By these factors economy of purchase or production is governed, provided the food is palatable, easily digested and nutritious—essentials in any successful ration. The complete ration must, further, be properly balenced, compounded of a variety rather than one or two constituents, and above all things contain some succulent food, winter or summer. On the latter or natural class of food, largely depends the continued health of swine. It is essential in the feeding of breeding stock.

The Stock Boar

Summer Feeding.—Supply a pasture of clover, alfalfa, or fine grass with water and shade. If no pasture is available, supply fresh green food liberally—clover, alfalfa grass, green peas and oats or weeds, as lamb's quarter, pig weed, dock, etc.

Winter Feeding.—Alfalfa or clover hay fed dry, in racks. Roots, such as raw mangels or sugar beets, pulped; cooked potatoes and turnips, 5 to 10 pounds daily; or in the absence of roots, clover or alfalfa hay, cut fine and soaked or steeped.

Feeding the Year Round.—If skim-milk, buttermilk or whey are available, supply at rate of 3 to 10 pounds daily as needed. The meal ration may be made up of ground oats, ground barley, bran and shorts in any combination of two or more, fed at the rate of 2 to 5 pounds per day, as needed. Use judgment in feeding the boar. If over-fat, he will prove a poor or uncertain stock-getter, indifferent and sluggish at service. If he is too thin, he will transmit to his get, lack of vigour and vitality and poor condition generally.

Exercise.—Importance cannot be overestimated. Supply a roomy shady pasture in summer, not a filthy, fly-infested pen or corner. In winter, arrange a paddock out-of-doors, close to the barnyard. If convenient give him the run of the yard for a few hours daily. As a shelter use, the year round, a cheap, portable, single-boarded cabin about 6 feet by 8 feet. Supply plenty of bedding. By feeding and caring for, as outlined, crippling and rheumatism, so common in boars, will be avoided.

The Brood Sow.

Summer.—Pasture, same as advised for boars.

Winter.—Roughage same as for boars. Meal mixture of bran two parts, shorts, one part, except when nearing farrowing-time, when the mixture should be of equal parts. If necessary ground barley or oats might replace either. Avoid corn in more than one-quarter the ration. For the breeding sow it is debilitating and over-fattening. Feed meal at the rate of 2 to 4 pounds as needed.

During Gestation.—Flush, or bring the sow into good condition before breeding. Maintain this condition after breeding. Avoid over-fatness with the ensuing troubles—difficult farrowing, small, weak, or dead pigs. Too thin condition, particularly with a young sow may permanently injure, in any case will likely mean small, thin pigs, a high percentage of runts, and small milk secretion. The in-pig sow must receive a cooling ration tending toward a laxative nature. The ration above advised qualifies in this regard. Remember first and last, that constipation at this time makes very certain, serious trouble with the litter—small, unthrifty, poor-doing pigs, due to constipation in both themselves and their mother. Such litters dwindle rapidly with no perceptible cause.

Exercise.—Equally as important as with the boar. With the exception of that period spent in the farrowing-pen, house the brood sow outdoors the year round in a portable cabin, 8 feet by 10 feet, and as described, placing four or five sows in each cabin. Choose a dry site. Make the sow work to obtain feed. This has an unfailing influence on the vigour, size and numbers of the coming litter, and lessens liability to rheumatism and crippling.

After Farrowing.—Avoid exciting the sow during or after farrowing. Always be present at this time, but give only such attention as may be required; no more. The first feed should be a tepid slop of middlings. During the first ten days gradually increase ration to maximum. Particularly avoid overfeeding, causing scours and thumps in little pigs. Feed the sow for milk production such rations as ground oats, middlings (equal parts), or ground oats, bran shorts (equal parts), both combinations with milk products. In summer allow green feed or pasture only after pigs are two weeks old. In winter, feed roots, clover hay, etc., to keep the bodily functions healthy and blood cool. Empty a pailful of earth and wood ashes in a corner of the pen. When weaning cut down meal supply and remove young pigs for longer periods each day until the sow is dry. If pigs are over-fat lazy and sluggish and the sow a heavy milker, force exercise.

Weaning Pigs

The strength of the pig when farrowed (governed largely by factors already discussed) exerts possibly the greatest effect on the ultimate economy of production. Second only to this point in importance is he influence of wisdom in the feeding and management of the sucking and the weaned pig. More good litters are ruined—and more swine-feeders baffled and discouraged—by improper feeds and feeding and ill-advised methods at the period mentioned, than possibly during any other phase of the pig's existence.

Teach the litter to eat three weeks before weaning. Use a creep which admits the pigs but not the sow. For bst results milk products are practically a necessity, with middlings. A few handfuls of dry grain scattered in the bedding ensures the pigs taking exercise. Avoid overfeeding, and make exercise necessary. Gradually increase middlings until weaning. If skim-milk is avaflable, and two litters per year are anticipated, wean at six weeks of age; otherwise, wean at eight weeks.

Ration for Weaned Pigs—After weaning start grain feeding as follows: Daily ration for the two or three month pig weighing about fifty pounds; 1 pound of a mixture of barley, 3 parts; shorts, 3 parts; linseed oil meal, 1 part; with 5 pounds of skim-milk daily. Soak for twenty-four hours, and feed. If in pen, add to this some dry grain, oats or corn, scattered in litter. This is not necessary if pigs are on grass paddock. As pigs increase in age, gradually increase the grain to three pounds or more daily, as needed, increasing also the proportion of ground barley or oats in the mixture, until at six months of age the ration consists of ground corn or barley, 6 parts; shorts, 3 parts; linseed oil meal, 1 part. Shelter the pasture or paddock-fed pig either with a portable cabin or a light open-sided shed. Avoid, particularly, turning the weaned pig outdoors to a shadeless paddock. Sunburn, skin trouble, temporary and often permanent stunting, ensues. Have natural shade if possible and supply clean, fresh water.

Other Good Growing Rations.

1. Ground barley, 4 parts; shorts, 4 parts; gluten feed, 2 parts; skim-milk, 3 pounds.

2. Ground oats or barley, 4 parts; shorts, 4 parts; ground peas, 2 parts; skim-milk, 3 pounds.

3. Ground wheat or shorts, 2 parts; barley, 2 parts; ground peas, 1 part; skim-milk, 3 pounds.

Numbers 1 and 2 would be applicable to Central and Maritime conditions, while No. 3 would be more adapted to Western needs.

Pastures

Compared to pen feeding, the pasture affords 5 to 25 per cent cheaper gains. For growing breeding stock, pasture feeding provides for growth of bone and muscle and general vigorous health. For fattening and finishing pigs, firmer, better quality pork will result. With the latter class of stock, however, the range must, of necessity, be more limited. Alfalfa forms the best pasture, with clover next. With both, however, avoid too close grazing. Rape and artichokes are best pastured in conjunction with clover or grass.

Green Fields

For dry-lot or pen-feeding fresh-cut alfalfa or clover are best. Rape is largely employed but is much lower in value than the first two mentioned and must be used before it becomes coarse and fibrous.

Economical Production and Health

General Rules for Feeding.—(1) Never feed more than the pigs will clean up. (2) Make all changes in rations slowly. (3) Realize that the breeding pig is an out-of-door animal. (4) Approximate outdoor conditions in the farrowing and feeding pen, i.e., supply fresh air, light, drainage, and above all avoid draughts and dampness. (5) Make exercise a prime factor with every class and age or breeding pig. (6) For economy and health see that green feed, pasture, roots, and well-cured roughage are part of the ration. (7) Remember that the pig is a poor patient and particularly difficult to treat. Strive to eliminate the cause of disease—prevent rather than cure it.

Minimizing Labour by the use of the Self-Feeder

To obtain maximum results and at the same time reduce labour to the minimum is the constant aim of the manufacturer. It has been proven that the hog may feed himself practically throughout life, and give a profit at least equal to that of hand-feeding methods, labour considered. This point is worthy of every farmer's careful consideration when labour conditions in the next few years are anticipated. The self-feeder makes possible the feeding of hogs, where labour for hand feeding is not to be had, or the doubling or trebling the extent of the operation as it might otherwise be carried out, and with less labour.

Requirements of a Good Self-Feeder For Swine

Such a device to be successful must be cheap, strong, capacious, portable, easy to construct, weighter-tight, easy of regulation for different textured meals, and most important of all, so arranged that the contents will feed into the troughs without any stoppage caused by the blocking of the meal in the hopper. Further, the troughs must be constructed to ensure the minimum amount of waste such as might be caused by the animals nosing the meal over the sides or soiling it by standing in the troughs.

A Home-Made Self-Feeder

Write for full plans and specifications if interested. Briefly, a self-feeder is a large box, in length dependent on the number of pigs to be fed—2 feet 8 inches wide and 3 feet high with a double pitch-roof, one-half being hinged for filling. In the bottom of the box is a large inverted "V" or deflector running the full length which guides the meal through openings at the bottom to flat troughs 10 to 12 inches wide on either side of the box. The width of opening may be regulated by an adjustable control-board or gate. This gate must be so attached as to have a certain amount of motion or flexibility in order that the hog by nosing against it may cause sufficient motion to break or prevent the formation of the blockades or "bridges" so common in meal bins. **Here is the important point in the self-feeder.** Unless such a device feeds continuously it is worse than useless as a feeder or labour saver. Along the trough running diagonally from the edge of the latter to the side of the feeder and spaced one foot apart, are braces or divisions, to prevent the hogs soiling or wasting meal in the troughs. Write for full plans.

Advantages of the Self-Feeder Over Hand-Feeding Methods.

1. Saves over 50 per cent of the labour. 2. Reduces waste of feed to the minimum. 3. Prevents digestive troubles due to overfeeding the pigs having full access to the meal at all times and therefore eating in small quantities frequently, instead of suddenly overloading the stomach two or three times in the day. 4. Gives the small or timid pig as good an opportunity as the more aggressive individuals. 5. Will produce gains equal to hand-feeding methods at equal or less cost.

Correct Condition for Using the Self-Feeder

Place the feeder on a platform or floor that will remain clean during wet weather and prove accessible to the pigs at all times. Provide shade of some sort, either trees or a rough shed. While this system of feeding will prove relatively economical in dry lot feeding where green food, skim-milk or water are supplied daily, **the maximum efficienyc will be reached where the feeders are placed in a good clover or alfalfa pasture.** In any case, dry lot or pasture, with or without milk products, fresh water should always be supplied, preferably running, or from some self-watering device, regularly and frequently filled.

When to use and When to Avoid the Self-Feeder

Young pigs from ten weeks of age onward may be safely and economically fed by this method. Until this age is reached it is generally wise to feed by hand, although experiments have proved that even sucking pigs may be benefited by the feeder. Shoats of all

ages, and in fact all classes of pigs to be finished quickly for market may be most profitably "self-fed.'- Young breeding stock, similarly, is benefited provided the ration is one of bone and muscle-forming nature. In general, avoid self-feeding with aged sows, particularly as farrowing time approaches.

Meals and Mixtures Adapted to use in the Sel-fFeeder

From a mechanical standpoint practically any mixture of whole or ground grains or other mill-feeds may be successfully fed. Corn, for example, is frequently fed along with clover or alfalfa pasture, for short finishing periods. For young pigs or shoats any of the following rations will be found suitable provided all hulls are fairly finely ground.

1. Shorts, fine ground oats, fine ground barley or corn, equal parts.

2. Shorts 4 parts, any of the above grains 4 parts, ground peas 2 parts.

3. Shorts or wheat 2 parts, barley 2 parts, peas 1 part.

With any of the above rations fed to young pig s skim-milk may be most profitably fed. Where such cannot be obtained the addition of tankage, meat or blood meal is recommended, say at the rate of one pound tankage to six pounds of any of the above mixtures. Where whole corn is used, one pound of tankage could be added to every eight of corn.

SOLVING THE FEED PROBLEM

A few weeks ago we heard a prominent farmer, who resides near Sussex, remark: "The high cost of dairy feeds did not trouble me very much last winter, as I grew a large quantity of peas, which I ground for my cows. I was not obliged to buy very much heavy feed." The farmer in question has a nice herd of cows and is prospering. He has made provision for a large crop of oats and peas this year.

A farmer living in one of the most prosperous sections of Sunbury county made a similar remark about the feed question. He said he had not bought a pound of feed for his cows all winter. He has a good crop of clover every year and grows also large quantities of swedes. He remarked that his cream cheque for March, 1917, was the largest he had ever received, and he gave the entire credit to the home grown feeds.

Alfalfa has been successfully grown in many parts of The Maritime Provinces in a small way. If alfalfa can be grown on a small plot where the proper conditions prevail, is there any reason why it would not grow in larger plots if the same conditions were given.

Mr. C. W. MacDougall, Dairy Superintendent for New Brunswick, has agitated for the giving of a fair trial to this useful crop. He has produced seed at Sussex that was pronounced by experts to be the finest sample of alfalfa seed they had ever seen. We believe that when our farmers will give alfalfa a fair trial by sowing it on well cultivated, drained, limed and inoculated soil, success will be assured, particularly if acclimitazed seed is used. Mr. McDougall has a small plot of alfalfa this year, where he sowed five varieties for comparison purposes last year. The various varieties are doing well and we believe the seed produced will be carefully harvested and used to sow a plot next year.

Very few, if any men in New Brunswick, have made as close a study of the feed question as has Mr. McDougall. Farmers who have given alfalfa a trial, without giving it the proper conditions for growth, would be well advised to try again in a small way and pay attention to every detail. Read the following extract from the report of the Nebraska Experiment Station. It should stimulate our farmers to try again.

A Substitute For Bran Grown on Farm at $12 Per Ton

Here is the result in brief of a test at the University of Nebraska North Platte substation to determine the effect of substituting chopped alfalfa for bran in the standard ration of 4 parts ground corn, 2 parts bran and 1 part oilmeal for dairy cows. In November, 1916, six pairs of dairy cows were selected with reference to lactation period, milk and butterfat production, age, breeding and other factors influencing their probable production during the next thirty or sixty days. One cow from each pair was put into Group A, and the other into Group B. The milk and butterfat production of the two groups had been about equal during the past month, and so far as could be foretold would be about equal during the next two months. All cows were handled in the same manner, excepting that during the first fifteen days the cows in Lot A were fed the standard ration of corn, bran and oilmeal, while the cows in Lot B were fed the same amount of grain, but in the mixture bran was replaced by chopped alfalfa. At the end of fifteen days the cows in Lot A were fed the alfalfa mixture and the cows in Lot B the bran mixture for fifteen days. Then the cows in Lot A were given the bran mixture and the cows in Lot B the alfalfa mixture for fifteen days. For another fifteen days the cows in Lot A were given the alfalfa mixture and those in Lot B the bran mixture. During two of the four fifteen-day periods each lot of cows was fed a grain mixture of 4 parts of corn, 2 parts of bran and 1 part of oilmeal, and during the other two periods each lot was fed a grain mixture of 4 parts of corn, 2 parts of chopped alfalfa, and 1 part of oilmeal. At all times there were six cows on one ration and six on the other.

The amount of grain fed to a cow was based on her milk production, but the two cows in each pair were fed the same amount of grain. The cows were fed 30 pounds of silage each, daily, and all the alfalfa hay they cared for, which is estimated at 20 pounds per head daily. During the third period one cow in Lot A, being fed the bran mixture, went off feed for a few days, and during the fourth period another cow in Lot A, being fed the alfalfa mixture, dropped in production for a few days. As one cow was off when on bran and the other when on alfalfa, these deficiencies do not influence the final results.

The six cows in Lot A while on the bran mixture during two fifteen-day periods gave 3,972 pounds of milk containing 143.3 pounds of butterfat and lost 32 pounds in weight. The same six cows while on the alfalfa mixture during two fifteen-day periods gave 4,052 pounds of milk containing 138.7 pounds of butterfat, and gained 223 pounds in weight. The six cows of Lot B while on the bran mixture during two fifteen-day periods gave 4,244 pounds of milk containing 158.4 pounds of butterfat and gained 254 pounds in weight. This same group of cows while on the alfalfa mixture during two fifteen-day periods gave 4,332 pounds of milk containing 163.6 pounds of butterfat, and gained 1 pound in weight. Bringing together the results from both groups we find that the twelve cows while eating the bran mixture durin gtwo fifteen-day periods produced 8,216.5 pounds of milk containing 302.7 pounds of butterfat, and gained 222 pounds in weight. The same twelve cows while on the alfalfa mixture during similar periods produced 8,384.5 pounds of milk containing 302.3 pounds of butterfat, and gained 224 pounds in weight.

During the test with twelve cows for a period of two months chopped alfalfa was substituted for bran in the standard dairy ration of 4 parts of ground corn, 2 parts of bran and 1 part of oilmeal, with no appreciable effects, either favorable or unfavorable. If these results are the same as will be found in general practice, then alfalfa fed in this manner has the same feeding value as bran. Since the same amount of butterfat and practically the same mount of milk was produced from the ration containing chopped alfalfa as from the ration containing bran, the difference in the cost of production is only the difference in the cost of the alfalfa and the bran. Valuing a good quality of choppel alfalfa at $12 per ton and bran at $30, the saving in cost of feed, due to substituting chopped alfalfa for bran, amounted to 13.6 cents per 100 pounds of milk, or 11 per cent. of the cost of the feed eaten by the cows in producing this milk.

W. P. SNYDER.
University of Nebraska Substation.

GOOD WATER SYSTEM AN ESSENTIAL PART FARM EQUIPMENT

One of the most important features of a well equipped farm is its water system, and notwithstanding this there are comparatively few places where anything approaching a complete outfit has been established.

The first factor in this equipment is the supply. Where a perennial spring or never failing well of good, pure, sparkling water is at hand, properly located, this phase of the problem is solved. In the absence of either or these, however, and where the farmer has to make a move in that respect, it would be advisable for him to be practically certain that the results will be sure and satisfactory regardless of a considerable difference of expense between either of the above and a temporary or uncertain supply.

The location of a well is worthy of special consideration. In the case af a farm that does not exceed half a mile or in some central position may be in length, one well located at the house or in some central position may be made to answer the purposes of the whole farm. By having some kind of power for pumping, the water may be forced through a small tank in the house into a larger one, outside, at or near the well, and from there conveyed to the barns and other out-buildings or to a trough in the yard or lane for convenience in the summer when the cattle are at pasture. Where the farm is more than half a mile in length it is usually better to have another well to water the stock pasturing in the rear of the farm, both to eliminate the inconvenience of bringing the cattle up to water in the middle of the day in hot weather and to encourage the cows to drink large quantities by having the supply convenient to them, without their having to make a long journey to the barn which might often do them as much harm as the water would do them good. A heavy milking cow is working hard enough securing her feed and manufacturing it into milk without taking long walks to secure water. It is better policy to take it to her.

The kind of well advisable will depend largely upon local conditions. Where there is a gravelly formation not too far below the surface a "drive well" will furnish an abundance of good water and in some sections a dug well is useful, but in most districts nothing is as sure as a good drilled rock well. Of course the initial cost will be considerably greater, but when a supply is once assured, it can usually be depended upon for all time. One big advantage to be found in the drilled well over the old fashioned dug well is the fact that it is not dangerous and not easily contaminated with outside impurities.

Having secured the well and located it at or near the home, so that the water may be forced through it on its way to the storage tank, let us look at further details of some definite system. It is not absolutely necessary to have the well or storage tank at or near the house, but it is preferable there for several reasons. In the first place that is the most convenient place to look after the pump and whatever power is used to operate it. Even when the best of care is taken of machines they sometimes go wronk. If placed quite near the house, where it can readily be seen, the windmill, gasoline engine or whatever other power is involved, may be observed now and then better than at any other place. On most farms the men are away from the buildings during a greater part of the day and if pump and power is at the barn or far from and out of sight of the house, there will be no one around to observe anything going wrong unless the burden is imposed on the women. Secondly, every farm house should have its supply of water furnished by the farm power. This is easier accomplished when the well and power is near the residence. Thirdly, if fresh water is wanted in hot weather and there is no wind to operate the mill or the other power is not working, it is only a step to the well. Fourth, the nearer the well to the house the less will be the power required to force the water through it to the storage tank. Fifth, if the power is at the house and the tank at the barn, much more power will be required. Sixth, if both the well and power are at the barn it will be difficult to get fresh water at the house. Of course both may be located at any reasonable distance away from either house or barn and the same results secured at the greater expense of power, heavy work for pump, making repairs more frequently necessary and increasing care and attention.

Some will think that the storage tank should be located at the barn on account of greater ease in protecting it from freezing. To this objection it may be said that a tank of water will freeze in the barn unless protected, and it is usully more or less of a nuisance, sooner or later leaking and causing trouble. A tank out of doors can be protected against freezing without great expense by enclosing it in a small, warmly built structure suitable to its si e. It may even freeze a good deal without doing any damage. Then, too, the daily pumping of warm water from the well into it will have a great influence in preventing severe freezing. Again on many farms the elevation of the house is great enough above the barn so that the reservoir may be built low down and covered in the winter to prevent damage by frost.

No doubt the ideal water system for the farm is provided in the pressure tank, which to all practical purposes is worked on the same principal as an ordinry steam boiled. The water is forced into it by a pump until the desired pressure is obtained when it may be carried to any building about the farm high or low without any further storage or any more expense other than the piping and watering troughs or basins. In addition to its value at the farm barns, outbuildings, etc., it may be used as a means of fire protection as water may be carried over the highest buildings on the farm. Again it may be used as a complete house system, providing water for lavatory, bath, laundry, or any other purposes for which it is needed. This system will cost more but where a farmer can afford it, he had better investigate it before proceeding with any other. There are companies advertising in farm papers who will be pleased to furnish estimates and tender on the installation of such a plan. If, however, any farmer interested in this matter has not the necessary cash on hand, or is not reasonably sure of having it in time to meet his payments, he had better be content with some simple plan that will answer every purpose,

(Continued on page 576)

THE MARITIME FARMER.

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JULY 10, 1917.

DATES OF ISSUE.

July	10-24
August	7-28
September	11-25
October	9-23
November	6-20
December	4-18

INSURANCE AN INDIVIDUAL NECESSITY

At thirty-five, a man has a life expectancy of about twenty-five years; that is to say, the average man of thirty-five will live to the age of sixty. But every one of a group of one thousand men, all of the age of thirty-five, will not reach three score. Ten of them will die between the ages of thirty-five and thirty-six. There will be a steadily mounting annual death loss, which long before the expected age of sixty is reached, will have decimated seriously the ranks of the original thousand.

It is this uncertainty of life that creates the need of insurance. If a man were able to say that he would live and exercise his earning power until he was sixty years of age, no particular need would exist for life insurance. He could carry his own risk, so to speak. But not being thus circumstanced, he requires to protect his family and estate against loss in case of death; his family against the loss of his earning power, and his estate against loss resulting from the removal by death of the head of the organization in the midst of life's activities. A straight life insurance policy, paid up by the time the insured reaches the age of fifty-five or sixty gives the best means of protection in those circumstances. A man requires also to protect himself against want in old age. An endowment policy paying a lump sum at a certain age or an annual payment during the lifetime of the insured, is the best means of ensuring independence during the closing years.

Several hundred varieties of insurance policy exist, but these two possess every essential for the protection of the average person and his dependents. The important point about life insurance is to have it, not to be merely thinking about buying a policy at some future time; to secure it at an age, when it may be purchased to the insured's advantage, not later in life when rates are higher and his chance of living smaller.

ECONOMIZE LABOR BY A SYSTEMATIC PLANNING OF WORK

It requires a good deal of ingenuity nowadays to farm successfully with the amount of help that is available. Most of us are engaged in producing milk, beef or pork. To be profitable, the feed must be largely home-grown. To accomplish this properly is a pretty fair contract under existing conditions, yet I have noticed time and again that some farmers attempt to raise almost every crop that will grow in their latitude.

In economics there is a principle known as the "division of labor", which may for the present purpose be best defined by means of an illustration. For instance, because a farmer in Carleton county grows potatoes on a large scale and makes money, it does not naturally follow that a busy dairyman in King's County can add potato growing to his operations and be successful. The man who makes potatoes his specialty must employ modern machinery to reduce the cost of production to its lowest possible point. He is therefore able to sell his output to the dairyman at a figure even lower than it would cost the latter to grow his own supply. The suggestion is plain. If farmers would give their undivided attention only to such crops as are necessary to their special line, and which they are equipped to produce cheaply, buying other supplies from other specialists, both parties to the transaction would benefit, and the cry for help would, in a large measure, cease.

It frequently happens that a good deal of labor is wasted in trying to crop land that is not in condition for cultivation. Suppose it needs underdrainage. Several things are likely to happen that will make cultivation unprofitable. Delay in spring means that in order to get the work done on time, probably double the help will be required. Then, too, undrained land requires two or three times the amount of labor in preparing a seed bed. It is not an uncommon sight to see men shoveling furrows across a field to let off the surface water. Ten chances to one the crop on this field will not pay expenses. Figure up the cost of opening these furrows, add the extra labor in tillage involved, plus the difference between a poor crop and a good one and the result ought to balance the outlay for tiles to put the land in first-clsas condition.

Sometimes, owing to size or peculiarity in shape of a farm, there are fields so far removed from the barn that much time is lost during seeding and harvest in going back and forth. Would it not be better to utilize this land for pasture, giving an occasional dressing of phosphorus. Then, instead of having the remainder of the farm laid out in many small fields, have but one to each year of the rotation. That is, if a three year rotation is followed, only three fields will be required. This means an absence of weedy fence rows that require attention at a most inconvenient time, larger machinery may be used and there is less turning with teams and implements.

In most cases it will be found that the man whose work is systematically directed will accomplish more than the man who has plenty of help but no system.

BUTTER FAT AS A FOOD

The following statements of J. H. Rushton of Omaha, Nebraska, about the nature and function of butter fat as a food are interesting. He writes:

"Milk is the universal animal food, provided by nature for the support of the young of its kind.

Growth is one of the principal functions of the young in animal life, and this growth is caused by a multiplication of cells in the animal tissue, meaning by 'animal tissue' everything connected with the animal from a 'life' point of view.

"The ordinary food taken in by animals supports life in the form of maintaining life—maintaining the body; but maintenance of life and maintenance of the animal body, is very different from growth, which means addition to the body and to life. Maintenance of cell life is one thing; but an increase of cell life is another thing.

"Therefore, the facts are that nature has provided a universal food for the young of animals, and the great function of youth is growth, and that this universal food possesses the elements of growth in it. These are basic facts—broad and general in their application, and well known in our own experience.

"It is becoming recognized that skim milk forms a diet very favorable for growth. It is admitted and recognized that butter fat contains in it this element to promoe growth and butter fat is the basis of butter.

"Therefore, butter is an article of food, not only capable of maintaining animal life, but of promoting the growth of animal life.

"It follows from this, and our experience supports the argument, that the more universal the use of milk and the constituent elements of milk by the people, the more the function of animal life is sub-served; and the more growth there is. Other foods have large maintaining power, but very few, if any of them have this growth power.

"The necessity of milk and milk products as a human food, as being conducive to health and as tending to longevity of life, is recognized by the medical fraternities and by all health bodies, and is well founded in the experience of mankind from the time of Adam until the present. The more liberal and the more general its use, the better the youth of our land will be in stature and in health.

"When you buy oleo, you purchase animal and vegetable fats in various proportions, that have more or less power to maintain life, but when you buy butter you have this same power plus the power to promote growth in the human race.

"You get something when you buy butter that you do not get when you buy oleomargarine, and it is this quality of promoting growth that has given to butter its universal use among enlightened and intelligent people, and give nto milk the place it now occupies. All the efforts that can possibly be made to improve the palatability of milk and improve the palatability of butter go to increase the use, and thus increase this power to promote growth in the human race."

WEEDS

With the call for more production there may be a tendency to increase the acreage of high producing crops such as the root and hoe crops on the farm. In preparing for these crops this year it will be well to thoroughly bear in mind that no amount of cultivation after the crop is in can make up for a lack of cultivation before the crop is planted. If the ground is properly prepared for the seeding and planting, the battle is largely won. By thorough tillage of the soil before planting thousands of tiny weeds will be killed which would otherwise cause trouble in the growing crop. By preventing the weeds from growing the crops are given a better opportunity to develop and produce the food which is required by Canadians in Canada and the Allies in Europe.

HORTICULTURE

RATE OF PRECOOLING FRUIT

In establishing precooling plants, there has been need of more information concerning the rate of cooling in the centres of the different packages of various kinds of fruit when exposed to a cooling air of a given temperature. The tests discussed herein were made with this end in view.

There has also been need of reliable information regarding behaviour of summer fruits when precooled quickly in four or five hours' time, using a temperature below freezing to do the work, as compared with the behaviour of fruit cooled slowly over a period of eighteen or twenty-four hours.

In making these tests the given variety and type of package of fruit has commonly been divided into four lots, one-half of which were stored at 40° F., or a refrigerator car temperature, and half at 32° F. One lot in each temperature was cooled rapidly at a temperature lower than 25° F., while the other lot was cooled gradually, using a temperature of 40°, for several hours. In rapid precooling the fruit was removed from the low temperatures as soon as the interior of the package was cooled to a temperature between 32° and 40° F., so that no freezing took place.

In securing the records of the rate of cooling, extension mercurial recording thermometers were used, having the sensitive bulb in the centre of the packages tested.

In studying these records and applying them to commercial conditions, it is well to consider the fact that they were made with the temperature of the air surrounding the package constant or very nearly constant during the entire period of cooling. Under commercial conditions, unless a large reserve of refrigeration is on hand, and is controlled automatically, the temperature of the cooling air is bound to be higher when the fruit is warm at the start of cooling than it will be after cooling has progressed.

Resutls

In stating results averages will be given showing wastage after a long storage period, so as to make comparisons

Low temperatures are not satisfactory with tomatoes. Tests thus far with tomatoes have not been conclusive in arriving at the best temperatures for precooling or storage. Temperatures slightly below 32° F. may be safely usee if precooling is stopped as soon as the tomatoes reach a temperature of 38° F.

Conclusions

Tender fruits such as raspberries, cherries, plums and peaches may be precooled in a short time without injury to the fruit using temperatures as low as 15° F., providing the fruit is removed from the low temperature before its temperature reaches the freezing point.

With strawberries, tomatoes, cucumbers and cantaloupes extremely low temperatures should be used with caution, although it is safe to use temperatures lower than 32° F., providing cooling is stopped when the temperature of the fruit reaches 38° F.

With the exception of the fruits mentioned, there is no danger of injury from low temperatures unless freezing actually takes place. Freezing will not take place for some time after the temperature of the fruit reaches 32° F. Even when using a cooling temperature of 15° F., the temperature of the fruit will not reach this point for several hours.

By using an air temperature of 15° most basket fruits will cool from 75° F. to 40° F. in four hours.

By using an air temperature of 32° F. most basket fruits will cool from 75° F. to 40° F. in ten hours.

By using an air temperature of 38° most basket fruits will cool from 75° F. to 40° F. in eighteen hours.

For the purpose of efficiency, precooling plants should be designed to do their work rapidly. The warehouse type of plant should be designed to precool fruit from 85° F. to 40° F. in not more than ten hours' time. Fruit being received in the afternoon may thus be shipped the following forenoon, clearing out the rooms for the afternoon's receipt of warm fruit and increasing labour efficiency by using men in the afternoon for receiving.

Rapid cooling shortens the time of despatch of the shipment, not only the extra time needed for slow cooling, but often as much as twenty-four hours where long-distance freight trains are made up but once daily.

Strawberries.

Low Temperatures used, 20° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 6 days at 32° F.	9.0	0.0
Held 6 days at 40° F.	9.0	12.7

No injury was apparent from the rapid cooling and although the averages show the rapidly cooled to be superior, no practical difference could be seen in making inspections.

Cherries—Sweet.

Low Temperatures used, 12° F. and 15° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 14 days at 32° F.	0.0	0.0
Held 14 days at 40° F.	6.93	6.55

With the Napoleon Biggareau variety a slight injury was apparent from using 12° F., so slight to be negligible. Otherwise, no difference could be seen between the two methods.

Cherries—Sour.

Low Temperatures used, 17° F. and 20° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 10 days at 32° F.	6.67	5.41
Held 10 days at 40° F.	10.01	12.73

No injury was to be seen from rapid cooling.

Raspberries.

Low Temperatures used, 20° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 6 days at 32° F.	0.0	0.0
Held 6 days at 40° F.	2.68	1.90

Averages of wastage favour slow cooling. The amount of difference, if any, could be seen in the general appearance of the fruit.

Plums

Low Temperatures used, 15° F. and 20° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 20 days at 32° F.	2.55	1.96
Held 20 days at 40° F.	6.97	7.36

No injury was apparent from rapid cooling.

Peaches.

Low Temperatures used, 15° F. and 20° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 20 days at 32° F.	0.0	0.84
Held 20 days at 40° F.	0.32	1.07

No injury was apparent from rapid cooling.

Tomatoes.

Low Temperatures used, 15° F.

	Average Percentage of Waste. Cooled Rapidly.	Cooled Slowly.
Held 20 days at 32° F.	0.0	16.88
Held 20 days at 40° F.	18.57	14.26

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Watch "Dunlop Tires" in the emergency. There's a wealth of security in that response to the brake.

A. 73

"SPECIAL" - "TRACTION"

TO RESTORE VIGOR AND STRENGTH TO A FEEBLE PLANT

The amateur gardener who has a plant that has become feeble because of improper treatment, and that he desires to save, quite often in his zeal does just the wrong things. He takes the plant from the pot, either removing all the old soil from the roots or leaving on the roots the mass of soil entire; he secures another pot, very much larger, and uses for repotting soil with which he has that very hour very improperly mixed a large proportion of animal manure, not well rotted but fresh from the stable or henhouse, or of some strong chemical fertilizer. Having repotted the plant in this crude, overrich, untempered mixture, not firmly, but loosely, he places it somewhere with little regard to the temperature or humidity or sun or shade. He waters it heavily every day, so that the soil soon becomes soggy and sour, as there is directly after transplanting little root action in the plant to enable it to use this water and carry it off through its foliage. And then his plant dies.

It is foolish to try to revive a nearly dead or very feeble plant unless the specimen is very rare or is valued for some personal and sentimental reasons.

The Right Kind of Soil

Given such reasons, however, consider what means should be employed to make the plant again strong and vigorous. First examine it for sucking insects, such as plant lice, green flies or scale bugs, and if these are found spray the plant with some good contact poison such as kerosene-soap emulsion.

If chewing insects are found, such as worms or beetles, use a stomach poison such as arsenate of lead with Bordeaux mixture; the arsenate will kill the worms or beetles, and the Bordeaux will be a remedy for any fungous disease that arises from insect injuries.

A hand sprayer, which will throw a mist-like spray, should be used to apply these insecticides. On a feeble plant it is highly important that the minimum strength of solution be used; the maximum strength is much too lokely to burn the foliage.

The spray should be applied twice a week till all insects are destroyed. If the plant is quite small the insecticide may be applied directly to the insects with a small, soft, round paint brush, especially if the insects are not very numerous. Meantime keep the soil in the plant pot moderately wet, and the plant in the proper temperature and light.

(Continued on page 576)

PREPARING FOR 1918 BEE-KEEPING

(Experimental Farms Note)

While a maximum production of honey is of pressing importance in this war-food year, yet increasing the bees for next season must not be neglected.

Roughly speaking, the bees that are in the hives at the commencement of the hopey-flow gather the crop, while

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THROUGH CAR SERVICE MONCTON TO LEVIS, VIA EDMUNDSTON—GOOD CONNECTION FOR FREDERICTON.

Summer Time Table Canadian Government Railways

With the summer time table in effect Sunday, June 10th, passengers will be able to leave Moncton 4.00 p.m., Tuesday, Thursday and Saturday and travel in through car, via Edmundston to Levis, arriving there at 10.25 a. m. the following day. Returning the through ar will leave Levis Monday, Wednesday and Friday, 4.30 p.m., and arrive at Moncton at 12.05 noon, Tuesday, Thursday and Saturday.

By the same trains and on the same days from Moncton there is a good connection at McGivney for Fredericton, passengers arriving in the Capital City at 9.45 p.m. Returning passengers can leave Fredericton at 6.40 a.m., and arrive in Moncton at 12.05, noon, Tuesday, Thursday and Saturday—the quickest time between the two cities, Moncton and Fredericton.

the brood builds up the colony for next year, unless there is to be another important honey-floiw. This brood is very valuable for forming nuclei, because these, started early with a laying queen, or ripe queen-cell, will build up into strong colonies before winter. Increasing in this way with brood from strong colonies during the honey flow is the basic principle upon which an apiary can be quickly built up, while at the same time an almost full honey-crop is secured.

In newly-formed nuclei containing brood in all stages, there is always more or less desertion of bees and consequent death of the young brood and sometimes chilling and death of the older brood, even when the nuclei are skilfully made by an experienced apiarist. Further, queens may not be immediately obtainable, or they may be lost in introduction. Robbing of the newly-formed nuclei has also to be guarded against, but during the height of the honey-flow only carelessness will cause this; towards its end, however, the danger of robbing grows so great that it is difficult to maintain newly-formed nuclei even when strong. Desertion may be checked by stopping the entrance with grass; the bees will make their way out when the grass dries and shrinks in about two days, but care must be taken to avoid overcrowding the confined bees, which would lead to stifling, especially in hot weather. A good way to overcome the loss of young brood is to place the brood over a queen excluder a week before its removal from the parent hive. This may be done in the ordinary course of relieving congosiion in the brood chamber as a means to discourage swarming, a frame or two of empty comb or of foundation being placed in the brood chamber when the brood is raised.

All of these risks may be greatly minimized by proceeding as follows:—Have all the queens' wings clipped (Tthis is not essential), and when a colony of a strain that it is desired to propagate swarms, move the parent hive to a new stand, and let the swarm return to an empty hive placed on the old stand, the queen having been picked off the ground and placed in the empty hive. The field bees will now join the swarm, and the super should be transferred from the parent hive to the swarm which will produce the crop of honey. The colony, now depleted in bees but rich in brood, is divided a week later into three to six nuclei, each nucleus consisting of two or three combs containing brood and honey carrying two or three queen-cells containing queens soon to emerge, with the adhering bees.

This method has the great advantage that it not only controls and satisfies the troublesome swarming instinct but it helps to secure the desired ends by natural means. The honey gatherers are segregated into a strong force, and the brood, being mostly capped, is not likely to get chilled; the bees desert neither it nor the queen-cells readily, and all trouble in raising and introducing queens is avoided. The bees in the newly-formed nuclei are in the post-swarming stage, when their instinct is to spread themselves over and incubate as much brood as possible, and especially the queen-cells.

The beginner should be warned not to divide the parent colony into two many weak nuclei, but this fault may be rectified in the autumn by uniting. The ideal conditions for building up nuclei are a slow honey-flow throughout August and early September. Fortunately these are supplied in most Canadian localities by goldenrods and asters or by buckwheat.

Mismated queens may be replaced any time up to the first or second week in October, preferably not during the robbing season.

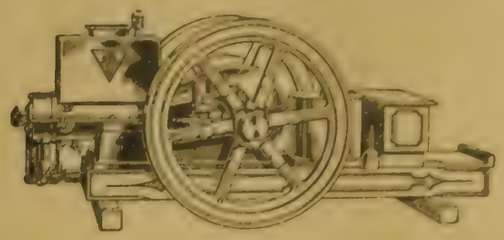
SPRAYING

In our issue of February 6th, we published a paper on "Some Results from Spraying Work of 1916 and Sprays Recommended for 1917", read by Geo. E. Sanders before the recent Nova Scotia Fruit Growers' Association at Bridgetown. We have heard some very favorable comments on Mr. Sanders' paper.

One good authority on conditions in the Fruit sections of Nova Scotia told us recently that the paper in question was right up to date to the farmers of the valley, but is one or two years ahead of most of the Exp. Station men. The farmers all are sure that they have burned apples off the trees and they are sure that Bordeaux is safer for the last summer spray. They know that if you do not use Bordeaux for the "after the blossom" spray you will get very little russetting from its use at other times. They know that for two years they have used and seen arsnate of lime used with lime and sulphur and that it was safer and much better to use than arsenate of lead with the same material. All this seems to be news to most of the experiment station men, but it is something that dozens of people in the valley have been watching for two years and are now sure of.

Another party told us it is great fun to see the way the dicerent experiment station men treat the new spray calendar, most of them are as yet very sceptical. I have been on a two weeks trip over the valley and I have only had all that Messrs. Sanders and Brittain have published and more that they have not yet published corroborated and no one raising the slightest criticism of the spray calendar, for it jibes I find, with the experience of dozens of men throughout the valley who have tried it out but never brought their tests before the public before.

HARD JOBS MADE EASY
if you have an



Alpha Gas Engine

THE farmer who goes on doing all his work by hand is wasting a lot of time and energy.

He could accomplish a great deal more work, and do it more quickly and more cheaply, if he had a good gas engine.

For some reason, many farmers, who without hesitation will buy a mowing machine that they can used only seven or eight times a year, will balk at buying a gas engine with which they could save time, money and labor every day. They seem to regard it as a luxury, when as a matter of fact it can be put to so many different uses that it will save its own cost more quickly than any other machine on the farm.

Go in and see the local Alpha agent. Let him show you for how many different purposes you can use the Alpha, and why it is the most economical engine to buy and the most satisfactory to own. If you don't know who handles the Alpha in your neighborhood, write us for his name.

The sooner you get an Alpha, the sooner it will pay for itself

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

THE DE LAVAL COMPANY, LTD.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50.000 BRRANCHES AND LOCAL AGENCIES THE WORLD OVER

KILLS GARDEN PESTS
LARVAECIDE DOES IT !

Destroys Wire Worms, Slugs, Cabbage Worm, Cabbage Maggot, Onion Maggot, Potato Bugs, Cut Worms, Leather Jacket, Centepedes, White Grubs.

LARVAECIDE IS A PROVED ANTI-GRUB AGENT.

It must be thoroughly mixed in the soil.—Must not come in contact with growing plants.

SCORES OF UNSOLICITED TESTIMONIALS

LARVAECIDE for sale by leading dealers in the Maritime Provinces.

For Booklet and full particulars write

LARVAECIDE MANUFACTURING COMPANY
Head Office: 102 Prince William St., ST. JOHN, N. B.

GENUINE DIAMONDS
CASH or CREDIT
Terms: 20% Down and $1--$2--$3 Weekly.
We trust any Honest Person
Write for Catalogue to-day
JACOB BROS., Diamond Imp., 15 Toronto Arcade, Toronto

DAIRYING.

CHEESE FROM SKIM MILK

Subscriber asks for a method of making cheese from skim milk.

In making skim-milk cheese granite pails should be used, as allowing sour milk to stand for any length of time in a tin pail will give it a metallic flavor.

Method No. 1

Heat the milk to eighty or ninety degrees F., and let it stand at this temperature until it becomes thick and sour. Then place the pail containing the milk in boiling water; break up the curds and raise the temperature to from 105 to 110 degrees F., stirring it gently so as not to break the curds up too finely. Cook at the above temperature for from twenty to thirty minutes.

When the curd begins to get firmer, pour it into a clean sugar sack or o cheese cloth bag and hang up to allow the whey to drain off, then wash the curd by pouring a small quantity of water into the sack at from 85 to 90 degrees F. This will removo the rancid flavor.

When the curds are fairly well drained, add salt at the rate of one-half teaspoonful per pound of cheese, then keep it in a cool place until ready to serve. When serving, add a little sweet cream and work it well into the curds with a long spoon. This will give the cheese a fine texture. Never add cream until ready to serve, as the acid in the cheese will cause the curd to become sour, especially in hot weather.

Method No. 2

Heat the skim milk up to 75 or 80 degrees F. and, in order to hasten the process of making, fifteen to twenty per cent of starter can be added, which will cause the milk to curdle in a much shorter time. When a firm curd has been formed it is broken up by cutting with cheese knives or a wire spoon.

After the curd is broken up, it should be heated to from 98 to 100 degrees F. by applying heat gradually and stirring continually. It should take about twenty-five or thirty minutes to bring it to this temperature. Maintain it at that temperature for about twenty or twenty-five minutes or until the curd feels fairly firm and the whey appears clear. Too low a temperature in cooking the curds produces a soft, pasty cheese, which will develop a high acid flavor, while a high temperature will produce a dry, granular and corky cheese.

Drain the curds by putting them in a cheese cloth bag in small quantities and hang it up to drain. When the whey has practically ceased to run, it is ready to add the salt. When the curd is taken from the strainer, it should be in a single mass. It should be thoroughly broken up and salt added at the rate of one ounce to five pounds of curd. If a rich cheese is desired, cream or butter may bo added.

SELLING MILK OR CREAM

Subscriber, writes: "I have a number of cows freshening this summer. I am not certain whether it will pay me best to sell my whole milk or simply the cream. What would you advise?"

This is a difficult problem to solve from the meagre information furnished. It will depend largely upon conditions which are not outlined. For instance, if a number of hogs and young calves were being kept, it would be necessary to keep the skim milk at home and market the cream. The distance from town will also be a determining factor in the marketing of the dairy output. If located at a considerable distance from town the hauling of cans of whole milk is not to be recommended in comparison with marketing the cream alone. The relative prices of milk and cream will be a further regulating influence. While these figures are not given by our subscriber, there is a basis upon which we can figure this problem and allow the shipper to judge for himself under conditions prevailing in his locality.

Take a dairy of twenty cows, with an average butterfat test of four per cent. Will five cents per quart for milk be as profitable to the owner as cream sold at forty cents? Forty quarts of milk at five cents bring $2. The forty quarts of milk weigh eighty-six pounds. If four per cent is fat the fat weighs 3.44 pounds. One quart of thirty per cent cream weighs approximately two pounds; its fats six-tenths of a pound. Dividing six-tenths of a pound into 3.44 pounds we learn that the eighty-six pounds of four per cent milk contain 5.73 quarts of thirty per cent cream, worth at forty cents per quart, $2.29. Here is a gain of twenty-nine cents per can above the sale of milk at five cents. Nor is this all, for seventy-four pounds of skim-milk remain at home. Authorities claim that this is worth one-half as much per hundred pounds as oats is worth per bushel. Alberta oats are worth about 62 cents, thus making the value of this skim-milk 31 cents. This added to the 29 cents above, shows a total over the selling of milk of 60 cents per forty quart can. When a dairyman is dependent upon the sale of fats, he will retain the rich producers in his herd. The tendency is for the test to creep up. When it has reached 4.25 or 4.5 per cent the gains are greatly increased.

Still there are features to consider in the cream business. The owner must concentrate his business. His dairy room must be equipped so he can separate, test and hold his cream until shipped. By carelessness he may lose fats in his skim-milk or in shipping, so that frequent tests will be necessary of both the cream and the skim-milk as well as of each cow. If the cream is sold to dealers who pasteurize, icing, pasteurization and cases to hold the cans when iced will not be required, but usually a better price will be received if the cream is pasteurized and sold to consumers or those who retail direct to consumers.

Every Farm Should have an "Ayrshire"
She is a heavy milk producer, rich in butter fat—very prolific.
$
brings you Money
WRITE W. F. STEPHEN, Secretary
CANADIAN AYRSHIRE BREEDERS' ASSOCIATION
Box 504, HUNTINGTON, QUE.

SANITARY CONDITIONS REWARDED BY MORE MONEY

The Dominion Dairy and Produce Company, which is operated by the Dairy Branch of the Department of Agriculture for Saskatchewan, and which supplies a large percentage of the milk used by the residents of Regina, has recently outlined an attractive and up-to-date method of paying for its milk supply. Mr. W. A. Wilson, dairy commissioner, has written each milk shipper that if at the end of the year he can show a clean bill of health for his cows, or in other words, can furnish a certificate from a qualified veterinarian showing that his cows are free from tuberculosis, he will be paid three cents per pound for each pound of butter fat his milk has contained, in addition to the regular payments he has received during the year.

In addition to being paid extra for healthy cows he will receive two cents extra for each pound of butter fat, if his stable, milk house and general surroundings are sufficiently sanitary to score 75 points or over in a possible 100, in accordance with the score card used by the health department of Regina. In connection with this inspection the dairy branch are co-operating with the city health department, and their reports on the inspection of these dairies will be used and will form a basis on which these extra payments will be made. It is doubtful if this system has ever been tried in any other part of America, but the principle of paying dairymen to take extra care and pains in connection with their herds and milk shipments is right, and should work out to the satisfaction of milk shippers and also tend to materially improve the supply of milk.

The system of paying for quality is not new with the dairy branch of Saskatchewan, as during the past few years this system has been followed in connection with cream shipments at all creameries operated by the dairy branch. Three different standards have been made for cream, and those who ship the highest grade receive five cents per pound more for each pound of butter fat than do those who ship the lowest grade. This system has so improved cream shipments that it has enabled the co-operative creameries to produce a butter of exceptionally high grade, which sells on the British Columbia and Montreal markets at a considerable premium over local butter. In connection with milk shipments it is somewhat of an experiment, and is subject to later modifications, but should work out to the advantage of both producer and buyer.

CLEAN DAIRY UTENSILS NECESSARY FOR CLEAN MILK

Most of the bacteria which get into milk come from the dirty cow and from the utensils, such as cans, pails, strainers and separators, which have not been properly cleaned. In winter the cows are likely to become dirty from confinement in the barn, but in summer they are easily kept clean so that they are then of little relative importance in contaminating milk. On the other hand, a far greater number of bacteria get into milk from dirty utensils in summer than from a dirty cow in winter.

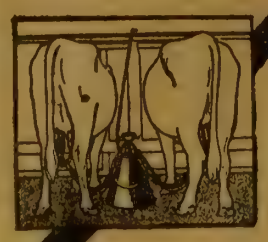
A bacterial count recently made from some of the rinsing water left in an eight gallon can, which had been washed twelve hours before, showed the can to contain more than three billion bacteria. Eight gallons of milk placed in this can would have received a contamination of nearly 100,000 bacteria for each cubic centimeter. This can had been thoorughly rinsed and left covered in a room where tho temperature was about 70 deg. F. An experiment made during the winter when the temperature was below 50 degrees showed fewer than 3,000,000 bacteria in a can similarly treated, which would mean a contamination of fewer than 100 for each cubic centimeter of milk.

A can which was rinsed subsequently heated with steam and then turned right side up with the cover off until dry, contained approximately 200,000 bacteria or a contamination of about 7 for each cubic centimeter.

Experiments of this sort which hve been carried on at the University of Missouri College of Agriculture indicate that the point of chief importance in the care of dairy utensils, especially in warm weather, is thoroughly drying after cleaning. Cleaning will remove a large per cent of the bacteria and much of the food for their growth. Application of steam for thirty seconds kills very few, but it will supply heat to dry the utensils which prevents bacterial growth so that there will be practically no more presont twelve hours later than five minutes after washing the utensils.

Much emphasis has been laid upon thorough cleaning of utensils, and rightly so, but the process of drying is equally as important in warm weather. Drying should not be done with a cloth, but by heating the utensils in hot water, steam or oven sufficiently to evaporate moisture.

General recommendations for the care of utensils are: 1. Rinse in luke-



"With your Milking Machine I can Produce Milk of Superior Quality"

The writer of the letter below is known throughout his district as a keen and rather critical judge of dairying methods and equipment. They say he is a "crank" on quality! Certainly the John D. Duncan Co., of Montreal, are most particular about the purity of the milk they get for their patrons.

RIVERFIELD, QUE., Jan. 25, 1917

Gentlemen:—
I have noticed some of the testimonials you are publishing and thought I would let you know how I like the Empire Milking Machine and Empire Engine which I purchased from you in the month of April, 1916. It has given entire satisfaction. I have had considerable experience with engines for many years, and am consequently in position to appreciate the merits of the Empire, and recommend same as one of the most reliable for milking machine and general farm work.
With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operater.
J. R. McKELL.

EMPIRE
Mechanical Milkers

produce milk of high quality, at the same time that they save time, reduce expense, increase profits, and make it possible to keep up and even increase the number of cows milked, in spite of the growing scarcity of help, They certainly are worth investigation.

Write for Booklets explaining the correct natura principle on which the Empire works, and giving the experience of prominent Dairymen who are using it. Address Dept. L

THE EMPIRE CREAM SEPARATOR CO.
of Canada, Limited.
MONTREAL. TORONTO. WINNIPEG. 63

Good Cheese Makes More Customers Use Windsor Cheese Salt

Made in Canada

THE CANADIAN SALT CO. LIMITED 227

Wear PALMER-McLELLAN'S Chrome Tanned Farm Boot

THIS SUMMER

POST PAID TO YOU

$4.50

"The Boot with the Moccasin Comfort"

Here at last is the perfect combination of boot and moccasin. The general shape is that of a moccasin, but the boot is built on a last, with a long solid counter to hold up the heel. It has all the easy foot fitting comfort of a moccasin, and, at the same time, it will stand right up and keep its shape with any boot.

The new chromoil leather used is simply wonderful. The chromoil tanning process produces a through-and-through, instead of a surface, waterproof, and a leather much stronger and more durable than any other. These new farm boots will not crack and shrivel when dried by the fire. They remain pliable in weather that freezes other oil-tans. They outwear any other boot of their kind on the market, and give solid comfort and satisfaction every day.

If you have any trouble getting these new Palmer-McLellan Chromoil Tanned Farm boots locally, mail us the price and we will ship you a pair postpaid.

Men's Sizes 6 inches high, per pair $4.50
" " 10 " " " " 5.00
Boys' " 6 " " " " 3.50

ADDRESS DEPT. M

Palmer-McLellan Shoepack Co., Limited,
FREDERICTON, N. B.

Write for free booklet describing Chromoil Tanned Leather and its merits.

SUMMER SHOES FOR MEN WHO WORK

Here is something new in footwear specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all those needing strong yet light, cool, easy shoes. These are made on good-fitting right and left lasts from our famous oil-tanned Skowhegan waterproof leather with waterproofed sole leather outsoles and solid insoles.

Palmer's "Moose Head Brand"
"SUMMER PACKS" and "HARVEST SHOES"

are light weight, comfortable, durable working shoes for spring, summer and fall wear. Sold by leading dealers everywhere. If your merchant does not carry them write us, giving his name and address, and we will see that they are placed within your reach. Made 4, 6 and 9 inches high. 19

JOHN PALMER COMPANY, LIMITED
Fredericton, N. B. - - Canada

warm water as soon after use as possible. 2. Wash in hot water containing washing powder which will remove grease. 3. Rinse in clean hot water, drain and place right side up until steam is not available, sunning will give effective results. 4. Invert in a clean protected place when dry.

SUBSTANTIAL INCOMES

What did your best cow earn for you last year? A seven-year-old grade in a herd near Oxford Mills, Ont., that milked from March 30, 1916, to Jan. 30, 1917, gave 363.9 lb. fat, which at 45 cents per pound equals the substantial sum of $163.75. Perhaps you got more.

Fortunately, the owner of this herd is keeping records of each cow that he owns and has the satisfaction of knowing that six out of his fifteen cows earned over $150.00 each.

With milk weighed every tenth day, and a composite sample tested once a month, the actual yield of each cow for her full period of lactation can be found with but little trouble.

Milk and feed record forms are free on application to the Dairy Division, Ottawa. A study of records should mean in increase in your cows earning capacity by at least fifty per cent. in three years.—C. F. W.

TO CONTROL TUBERCULOSIS

The Dominion Government is taking rigid measures to eradicate tuberculosis among the dairy herds in Canada. With its increasing live stock population, this question is a vital one to the West, and yet one to which few private owners of herds have paid any great attention. The government has recognized that the dairy man is too little encouraged to purge his herd of all those which re-act under the tuberculin test, and, according to a dispatch from Ottawa, not only will they deal more strictly with cases detected, but they will give compensation to the owners of animals slaughtered.

Where cattle have been destroyed for tuberculosis, the Dominion Government will refund to the owner one-half of the value, and where the animal has been slaughtered at the request of the owner, the government will refund two-thirds of its value. By an Order-in-Council passed lately, the government will in future license all dairies and will refuse license to all dairies failing to conform to a certain standard. Dairies receiving milk from herds containing re-actors will be prohibited from selling that milk until it has been pasteurized.

DAIRYMAN LOSING MONEY

Tabulations from the big dairy mass meetings throughout New England May 7, are fast being made. Sec Pattee of the N E M P A says reports so far show farmers are selling cows in 24 counties and keeping them in seven.

Letters and reports show sales within 60 days of about 15% of whole.

More than usual are going to slaughter, many being held till pasture season in hope of improvement.

Mostly sold because it didn't pay to keep them at present price of products. Many sold to pay grain bills.

More calves are reported in non-dairy sections, and less in dairy counties, indicating that calves are being raised for beef. It is more profitable to feed milk to calves and pigs than sell in market.

Not a county in New England reports enough farm help.

Every county reports help getting practically 25% increase in wages over last year, some counties paying more, few less. Five counties out of 33 reported no shortage of grain. Many farmers in those counties buy in fall by ton in carload lots. Generally, the shortage is very acute.

The effort to raise grain for dairy consumption is general and shows splendid courage. With little help at higher prices 25% of farmers are raising all they can carry on, working long days and selling their products at a loss in every county in New England. It's a lesson in patriotism for cities to contemplate. The cities have no right to expect eight-hour days at profitable wages while farmers work 14 to 16 hours to feed them at a loss.

Most counties have seed available, but prices are almost prohibitive. Few places short of corn, soy beans, etc.

Every county, except one, losing money, and that one "not making much."

Prices desired vary greatly. Probably 7 to 8 cents per quart at country station is about the average.

You need new a

DE LAVAL SEPARATOR NOW

1st If you are still using some gravity or setting process of creaming—

BECAUSE YOUR WASTE IS greatest and quality of product poorest in mid-summer when the milk supply is heaviest.

BECAUSE TIME IS OF GREATEST value on the farm at this season and the time and labor saving of the good separator counts for most.

BECAUSE THE SKIM-MILK IS poorest without a separator in hot weather and often more harmful than helpful to calves.

BECAUSE THE WORK OF A New De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an Inferior separator of any kind—

BECAUSE THE LOSSES OF THE poor separator from incomplete skimming and the tainted product of the hard-to-clean and insanitary separator are the greatest at this season.

BECAUSE OF THE GREAT economy of time at this season in having a separator of ample capacity to do the work so much more quickly,

BECAUSE THE NEW DE LAVAL is so much simpler and more easily handled and cared for than any other, and you can not afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

BECAUSE THE DE LAVAL SEPARATOR of to-day is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority counts for most during the hot summer months.

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Best Nerve Specialist in England Was Consulted

But Nervous System Failed to Respond to Treatment Prescribed.

Nervous disorders frequently result from injury to the nerves in accidents or because of the shock to the system.

The writer of this letter was injured in a mix-up with some colts, remained unconscious for three weeks, and in spite of continued treatment in hospital could not obtain restoration of the internal nerves which control the action of the digestive and other vital organs. He travelled to Europe and consulted England's greatest nerve specialist. Relief was only temporary, in spite of many treatments used.

His letter gives the facts briefly and tells how he was finally cured by using Dr. Chase's Nerve Food. Can you imagine any more severe test of this great nerve restorative?

Mr. Henry F. Venn, Cefu Ranch, Malakwa, B.C., writes: "Dr. Chase's Nerve Food has restored my nervous system and given me new health. Having met with a severe accident seven years ago, from which I was unconscious and which left my nerves in a very sore plight, I was treated by doctors galore and consulted one of the greatest nerve specialists in England, but nothing seemed to do me much good. Hypophosphites and, in fact, all and every kind of nerve mixture in almost every form was used, but never with more than temporary benefit.

"But Dr. Chase's Nerve Food has acted very differently, for it has built up my nervous system until I feel like my old self again. If this medicine will do for others what it has done for me, I shall not regret having written this letter. I have recommended the Nerve Food personally to many, and shall always esteem its great restorative value."

Dr. Chase's Nerve Food, 50 cents a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

FARMERS

SHIP YOUR WOOL DIRECT TO US

The Highest Prices Ever Paid for Wool Are Now Being Paid by Us

Mr. Farmer, you can get more money for your wool by sending it direct to us.

In all probability it will come to us anyway at some time, no matter to whom you sell it.

For over thirty years we have been one of the largest buyers of wool in Canada.

We could not continue in business for this length of time if we had not treated our customers fairly and pay top prices.

We send your money the same day as wool is received, only deducing freight or express charges.

We are now paying for wool as follows :

Unwashed fleece, fine....58c to 60c per lb.
Unwashed fleece, coarse, 56c to 58c per lb.
Washed fleece, fine ..... 70c to 72c per lb.
Washed fleece, coarse....68c to 70c per lb.

Ship to-day or write us telling how much wool you have, if washed or unwashed, and breed of sheep clipped from. We will then quote you a straight price and send you shipping tags with full instructions.

John Hallam Limited TORONTO

Concrete Machinery for Farm Use
(MADE IN CANADA.)

Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers. etc. New and Second Hand Gas. Engines.

Ask for Catalogue A

WETTLAUFER BROS., LTD., Toronto, Ont.
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175-Acre Farm, 5 Cows, Pr. Horses, $1,750 and

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LIVE STOCK.

TEMPER IN LIVE STOCK GOOD SIGN

Temper might be likened to fire. It makes a good servant but a bad master. In the animal, as well as the human world, the individual without temper is usually lacking in intelligence, stupid and sluggish. Such animals usually cannot be handled to the best advantage. They cannot be trained to work properly or to submit to human direction of any kind. Those animals which can be made to serve human ends best are animals which possess temper—probably a high degree of temper. But it is in the control of this spirit that there is the greatest possibility of usefulness. The animals most serviceable to man are often those which are most highly strung, and of distinctly nervous temperament.

The vicious, and bad-tempered animal is usually some such animal that has been mismanaged during the formative period of its training. The docile animal may possess as much "fire" and energy, but it has been brought under control, and is subject to the human will as exhibited during any handling that may be necessary. Such an animal is much more valuable about the farm, besides being safe to have around.

Vicious stock are objected to on every side. Besides being a nuisance, they may be decidedly dangerous. In muscular strength the average man is no match for any of the larger farm animals. It is only through control by his higher mentality that he is enabled to attain and retain complete control over brute force. This should be kept in mind all through the problem of farm management. In breaking, training, and handling horses, in stabling and working among the other classes of stock, and in all breeding operations, the problem of control should be remembered. Good stockmen learn to manage their stock without developing viciousness. If viciousness shows they will quickly determine whether it is a result of training, or is hereditary. If it is the latter the breeding of such animals is usually discontinued. If it is the former a little more effort may be put into the correction of the tendency. In all such cases it requires that the man be in full control of himself before the attempt to exercise his right of control on his animals. It is usually through lack of control of self that much of the bad habits and bad tempers result among the stock on the farm.

I. B. Henderson.

IT DOESN'T PAY TO MIX BLOOD IN CROSS-BREEDING

Every now and then one who has spent a good deal of money breeding up his dairy cattle gets the idea that he wants to cross the breed he has with some other that has taken his fancy. In nine cases out of ten the results are disastrous but the fact that on the tenth time the progency may have the desirable characteristics of both breeds will always lead some men to attempt it.

The trouble about this is that if defeats the very object for which men have been working for hundreds of years. Certain types have been developed and kept as pure as possible so they might regularly transmit their desirable points to their progeny. I have seen cross-breeding tried a number of times and I know no man can tell what sort of an animal he is going to get from a certain cross. The mixing of the blood breaks the chain of inheritance and any one may get a "throw-back" that will remind him of what the first wild calf must have looked like. When one makes the cross he breaks the long chain of inherited traits that may reach back for half a thousand years.

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I know a herd of Holsteins that was in a fair way of being ruined by cross-breeding several years ago. The owner reasoned that crossing the Holstein and the Jersey would produce a cow giving the quantity of milk characteristic of the Holstein and retaining the rich qualities of that of the Jersey.

He tried crossing, but it failed to work out very well. He got a few good cows but most of them were far under the standard for either breed and he woke up to the fact that he had so mixed the blood of his herd that he would have to start all over again. The fact that the first cross produced some pretty good animals kept him working along the wrong line longer than he otherwise would. The trouble came in the second generation with a bunch of weedy, nondescript calves that were far from being fit for future use in the dairy.

If those who get good bulls and start to raise better calves would keep at it there would be a big change in the average dairy animal. I have known men to get a first-class sire, keep him a year or two, let him get spoiled and breachy and then sell him for much less than they paid for him. Then they would go back to the mongrels of the neighborhood and all the good results obtained from the use of the good bull would be lost.

This happens again and again. Such men seem to be content to make a temporary change for the better and then slip back in the old ways. To keep going right the pure-bred bull is an absolute necessity at all times. Having got together a few good cows of any one of the noted dairy breeds under no conditions or circumstances breed them to a sire of another breed. If the cows are Holstein breed them to a pure-bred Holstein bull. Mixing the blood will always result in loss of valuable time and money.

PROTECTION FOR SHEEP OWNERS

An act was passed at the last session of the Manitoba legislature designed to protect sheep from the ravages of dogs. It provides that any person may kill any dog which he sees pursuing or wounding any sheep. The owner or occupant of a farm, or his servant, or any member of his family, may kill any dog, found without lawful permission giving tongue and terrifying the sheep in any way. It will also be lawful to kill any dog which may be found straying between sunset and sunrise on any farm on which sheep are kept.

The new law also provides that any person who is the owner of a dog which has within six months previous worried or injured or destroyed any sheep, may be brought before a police magistrate on a complaint made in writing, and, in case of conviction, the police magistrate may make an order for the killing of the dog by the owner. In the event of such an order the dog must be killed within three days, and, in default the magistrate may impose a penalty upon the owner not exceeding $20 and costs, and make a further order for the killing of the dog by a constable or any other peace officer. Such conviction will not act as a bar to any action by the owner or possessor of any sheep for the recovery of damages for injury done to the sheep.

The owner of sheep killed or injured by dogs shall be entitled to recover damages not exceeding $50 from the owner of the dog by an action for damages before a police magistrate. The procedure in cases of this kind will be as nearly as possible in the manner provided by "The Small Debts Recovery Act." All the provisions of the latter act will be made applicable to proceedings under this act for the recovery of damages.

The act further provides that where the owner of sheep killed or injured is unable, after securing conviction before the police magistrate, to collect or realize the amount ordered to be paid, the council of the municipality in which the offender resided at the time of the injury must pay to the owner of the sheep two-thirds of the amount ordered to be paid by the police magistrate.

The council of every rural municipality, town or village, may at the first meeting in each year appoint one or more persons to be known as sheep valuers, whose duty it will be to inspect the injury done to sheep by dogs in cases where the owner of the dog or dogs committing the injury cannot be found. The owner of sheep killed or injured by dogs, the owners of which is not known, may within three months after the killing or injury apply to the council of the municipality for compensation for the injury. If the council is satisfied that he has made diligent search and enquiry to ascertain the owner or keeper of the dog and that he cannot be found, they shall award to the aggrieved party for compensation a sum not exceeding two-thirds of the amount of damage sustained by him, according to the report of the sheep valuer, and the treasurer of the municipality shall pay the amount so awarded.

HANDLING PIGS AFTER WEANING

The strength of the pig when farrowed exerts possibly the greatest effect on the ultimate economy of production. Second only to this point in importance is the influence of wisdom in the feeding and management of the sucking and the weaned pig. More good litters are ruined—and more swine-feeders baffled and discouraged—by improper feeds and feeding and ill-advised methods at the period mentioned, than possibly during any other phase of the pig's existence.

Teach the litter to eat three weeks before weaning. Use a creep which admits the pigs but not the sow. For best results milk products are practically a necessity, with middlings. A few handfuls of dry grain scattered in the bedding ensures the pigs taking exercise. Avoid overfeeding, and make exercise necessary. Gradually increase middlings until weaning. If skim-milk is available, and two litters per year are anticipated, wean at six weeks of age; otherwise, wean at eight weeks.

After weaning start grain feeding as follows: Daily ration for the two or three month pig weighing about fifty pounds; 1 pound of a mixture of barley, 3 parts; shorts, 3 parts; linseed

oil meal, 1 part; with 6 pounds of skim milk daily. Soak for twenty-four hours, and feed. If in pen, add to this some dry oats, scattered in litter. This is not necessary if pigs are on grass paddock. As pigs increase in age, gradually increase the grain to three pounds or more daily, as needed, increasing also the proportion of ground barley or oats in the mixture, until at six mnths of age the ration consists of ground corn or barley, 6 parts; shorts, 3 parts; linseed oil meal, 1 part. Shelter the pasture or paddock-fed pig either with a portable cabin or a light open-sided shed. Avoid, particularly, turning the weaned pig outdoors to a shadeless paddock. Sunburn, skin trouble, temporary and often permanent stunting, ensues. Have natural shade if possible and supply clean, fresh water.

EXTRA PROFIT FROM SELECTED COWS

One remarkably satisfactory result of keeping simple dairy records, yields of milk and cost of feed, is the knowledge gained that cows of good dairy type do repay the cost of extra feed.

One example may be given. Not far from St. Hyacinthe, Quebec, one hundred cows produced 104,854 pounds of milk more during 1916, than one hundred did in 1915. The 1915 records showed that ten were not paying so they were beefed, and again in 1916 eleven were sent to the block, being replaced by better milkers. Better feeding contributed largely to the above noted big increase in milk yield; more corn was fed, more clover and a little higher meal ration.

The value of the extra feed was $605.00, this produced more milk to the value of $1,677.66, so that the extra clear return was $1,072.66, and the cows were in much better condition.

Dairy records help to select good cows and to ensure larger profit.

RINGING A BULL

When a bull is eight months to a year old he should have a ring of 1½ to 2 inches in diameter put in his nose. This ring will be satisfactory until he is two years or older, when it should be replaced by a ring three inches in diameter. Copper or cannon metal are most generally used for rings, but either shows wear in time and care should be exercised to insert a new ring before the old one is worn out.

The ringing of a bull is not a difficult operation, but the animal should be securely tied. A bull punch sold by dealers in such supplies may be used for making the opening, and the ring slipped in as the punch is withdrawn. The insertio nof the ring by using a cannula and trocar is equally satisfactory. The trocar is forced through the cartilage division between the nostrils and withdrawn, leaving the cannula in the opening. One end of the opened ring is then passed through the opening as the cannula is withdrawn. After closing, the ring should be filed and sandpapered smooth at the joint. In some cases a sharp knife or a 43-calibre wad cutter (used for refilling cartridges) may be used, but the other instruments are preferable and will make a better job. In using the wad cutter the hole is made by placing a block of wood on one side of the cartilage to be cut and the cutter on the other side is sruck with a hammer.

The bull's head should be well secured before performing this operation. He should not be handled by the ring until the nose is entirely heale dup and is no longer sore.

FEED FOR CALVES

The following system of raising calves is followed by a successful dairyman with very excellent results:

Remove the dairy calves from the cow at birth. Do not allow them to suck unless weak or unable to drink, or unless the cow's udder is severely caked. Mother's milk for the first four days, at the rate of 8 to 10 pounds divided into three or four feeds, is essential. Feed whole milk for the first ten days, then start replacing part of the same with ski mmilk so that when the calf is one month of age, it may be receiving in two feeds daily, 12 pounds of skim milk plus a tablespoonful of finely ground scalded flax-seed jelly.

At three weeks of age feed a small quantity of whole oats in the manger. Fine hay and clean water might profitably be kept before them from this time on.

During the next fifteen weeks gradually increase the skim milk to 15 or 20 pounds daily. Add to the flax-seed jelly other constituents to make a cream substitute as follows: Finely ground flax 1 part, fine ground oats 2 parts, ground corn 2 parts. Feed in the milk divided into two feeds daily at the rate of one-eighth pound at the start and increase to 1 pound.

Replace the whole oats at four weeks of age with a grain mixture of equal parts bran and rolled or ground oats. Start the calves on one-eighth pound per day and increase gradually to 1½ pounds daily at twenty weeks of age when the skim milk may be gradually cut off and this grain ration increased proportionately.

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SOW NOT COMING INTO OESTRUM

I have a pure bred Yorkshire sow that I got from the Ottawa Farm Journal about a year ago. She has had one litter of 10 pigs. They have been weaned two weeks. I am feeding the sow three quarts of corn a day and she is in good shape. She is in a small pen and will not come in oestrum. What can I do to bring her around?

I have a male hog. Would she be better with him or by herself. A. H.

Ordinarily a sow that has nursed a little of pigs for 8 or 10 weeks, if a good milker, will be quite thin in flesh even though well fed, and when the pigs are weaned, quickly come in oestrum again. Nature is ever ready to teach us how to do things. Your sow is likely too fat from feeding corn and probably did not give nearly as much milk as she would have done if you had fed her on more nitrogenous food such as oat chop, shorts and oatmeal.

Take away the corn feed, reduce her ration, give her plenty of exervise until is reduced considerably in flesh, then increase her ration and when she begins to gain nicely she will likely come into condition for breeding. It will make little difference whether she is with the hog or not. If both were in a good big yard with a comfortable place to sleep they would get more exercise but had better be separated before you increase the feed. She will show her condition more quickly if running in separate yard along side that of the male.

With all stock the animal selected for breeding should be a good individual and if in addition there is a long line of excellent ancestors upon both sides of his pedigree there will be good reason to expect that he will with considerable fidelity transmit to his progeny the true characteristics of his breed those of his family and those of his individuality.

Purity of breeding on the part of the sire tends to render him prepotent and because of this prepotency it gives him the ability to effect an improvement. The lack of purity of breeding on the dam takes away her power to resist change in the direction desired when mated with pure-bred sire; consequently dams of mixed breeding are excellent material upon which to commence the work of upgrading so far as blood elements are concerned.

Far more effective than Sticky Fly Catchers. Clean to handle. Sold by Druggists and Grocers everywhere.

THE HORSE

GROWING PRIZE-WINNING DRAFT FOALS

By Professor M. G. Thornburg, Iowa Agricultural College

To produce prize winning foals three things are necessary. First, the colt must be well bred; second, must be well developed, and third, must be shown in a fit and attractive manner.

Exhibitors should begin to make plans long before the date of the show. In fact, the right time to start is when the sire of the colt is selected. The type depends on the colt's parents. It can be little influenced by feeding and therefore the selection of the sire is very important. In choosing the sire, select one that will "nick" well with the mare. Look to his colts and see if they are the right type. Prize winners have been produced from haphazard matings, but more prize winners have been produced by careful selection and matings.

From the show ring standpoint, it is well to have the colt come early. February and March foals have big advantage in scale over the colts that come in May and June. Size in the show ring is important; few judges take into consideration as much as they should the difference in age of the colts. It is hard to turn down a colt two to three hundred pounds heavier, even if there is a difference in their ages. It is practically impossible for the judge to determine the exact difference in age, so he invariably gives the larger colt the preference.

Feeding for the development of the colt should start long before it is dropped, in giving its mother the proper care and feed to produce a strong and vigorous foal. For best results it is absolutely necessary for the brood mare to have proper exercise while carrying a foal. Judicious work is perhaps the best and easiest way to furnish the exercise. When it is not possible to work her moderately every day, the next best course it to allow her plenty of range in the pasture.

Brood mares should also be properly fed. Experiments tell us that the size and vigor of pigs are influenced by the feed given the sow. The same principles of nutrition should hold true with colts. Most brood mares do not get enough oats, bran, oil meal, clover or alfalfa, but oftentimes are allowed to subsist on straw for weeks at a time. Colts from mares that are not fed on feeds rich in muscle and bone building materials are handicapped from the very start and with the best of care and feeding cannot compete with colts that are strong and vigorous when born.

During the nursing period the mother should be fed to produce a good supply of milk, especially after the colt is a few weeks old. Nothing can take the place of the mother's milk to keep the colt in a thrifty and growing condition. A few showmen add cow's milk to the colt's ration to keep them in bloom. Care should be taken not to over-feed on cow's milk as it is likely to cause scours if fed too heavy. It should be fed in small amounts, quite often, at about the same temperature as the mare's milk. Idle mares that have the run of a good pasture, with an occasional feed of oats, should produce plenty of milk. The mares that have to work hard each day are apt to be short on milk. They should be catered to in feeding, being given plenty of oats and bran, with clover or alfalfa hay and a run on the pasture at nights and on idle days. There is no feed so good as grass to produce milk.

Feed, exercise and comfort are the requirements for rapid and early growth. The foal needs grain in addition to the dams milk and grass. By the time he is a month old he should be given an additional grain feed in a separate box from that of his mother. A little oat meal is the safest feed to start him on, substituting later with oats and bran. Let him have all the clover and alfalfa hay he cares for. If he is running with the dam in the field a creep should be fixed up where he can get grain whenever he wants it. The creep should be placed near the shade or shelter where the horses usually rest or stand to fight flies.

The colt permitted to run with his mother in pasture will usually develop fastest, but where flies are bad it pays to keep them in the barn during the day, and turn to the pasture at night. When the mother is at work make the colt comfortable in a roomy, cool box stall, or if there is a paddock adjacent where he can exercise, so much the better. Don't let him wear himself out following the mother in the field. It is practically impossible to over-feed a foal if the feed is selected for growth and development. Cater to his appetite and keep him in good condition. Many exhibitors give excuses for their colts being thin by saying: "They are just in good growing condition." In reality, a colt that is growing as fast as it should invariably carries considerable fat—at least enough to hide the ribs and angle of its frame. To win in the show ring, it should be just fat enough to have a pleasing appearance. There is no danger of getting the colt over-fat if it has plenty of good exercise.

Exercise is essential to growth. Colts that are shut up in the barn and stuffed with feed are apt to go bad in their legs. Exercise also aids in digestion and helps to keep the foal in a thrifty condition. Give the colt a paddock, or, better, a small pasture where he can eat and exercise when his mother is working, but be sure the fences are in good shape so he cannot get hurt. He will be happier and more comfortable if he has another colt as a companion. If the mother is not at work, the foal will get plenty of exercise with her in the pasture.

The care of the colt's feet is another important thing to look to. Neglect has caused many deformities. By the time the colt is about two months old the feet should be examined carefully with the colt standing correctly on a level floor; also observe the action at both a walk and trot. Then rasp the roof wall so as to correct any defects you notice. The hoof wall should be even on all sides. Many times the toes should be shortened or the heel reduced so as to help the set of legs. The sharp edges of the hoof should be rasped off to keep the wall from chipping. Do not pare down the frog or cut the bases; the outer wall is all that should be touched and this only sparingly with a rasp. Shoes may be put on before showing and will increase the action and help to correct a faulty action if put on by an expert horse shoer. They will also make the colt's feet look larger. The shoes should be on long enough before the show for the colt to get used to them and not appear awkward.

From the very first, the colt should have plenty of training and grooming, teach him to lead and stand correctly. All judges will insist on the colt's being moved and the colt that leads up nicely will make a more favorable impression on the judges than those that have to be dragged or pushed along. A little training in leading and showing will help wonderfully in the colt's making a good appearance in the show ring.

The colt should be well groomed and perfectly cleaned when taken into the judging ring and to add to the appearance, decoration could be put in the mane, and tail. An "Aberdeen plait" in the name, with three or four roses is good. The "Herring bone" is the proper thing for the tail. Don't over do by putting in a too heavy decoration, and never disfigure the appearance of the colt by trimming his foretop and main.

All exhibitors of horses should train their colts to lead well before putting them into the show ring in classes in which they have to be shown on the rein. Ten or fifteen minutes spent daily for ten days in leading lessons will usually get a colt to go handily. For ordinary purposes it is not necessary to use the long rein of the expert nagsman as when showing a hackney, but the rein may be held about a foot from the head, and loosely, but just nagging sufficiently to keep the head in position and regulate the pace.

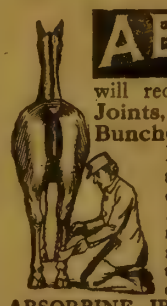
The leader should run along and avoid looking at his charge, for if he looks at him, he will go sideways, if possible, or not lead up. The off side of the horse should be along side of a wall or fence to make him go straight; a lane is a good place as the offside can be kept towards the fence going both ways. A run of fifty to seventy-five yards is ample and a man should be at either end to stir the colt up, with the whip, so as to make him lead up freely. If nobody is available for that purpose, the nagsman can carry a long straight whip in his left hand, with the point of it directed towards the hocks.

FARM HORSE HEALTH

Azoturia and colic are uncommon diseases among farm horses, considering the large numbers of horses in the country. Prevention of azoturia is largely due to the common custom of turning work horses out to pasture or in a lot when idle. Prevention of colic is perhaps mainly due to the good quality of hay and grain selected for horses on the farm.

If farm horses were stabled when idle azoturia would be a common disease. In cities it frequently occurs as Monday morning sickness. The veterinarians recommend as a preventive that horses be fed only about half the usual grain allowance when standing idle in the stable. The farmer usually turns the idle horses out after breakfast and they get no grain at noon. Then they are free to exercise and that of itself prevents the disturbance of nutritive functions which would result in azoturia. On this account many farmers do better than they know. They should keep in mind the fact that one or two days of full feeding of grain to a horse that has been hard-worked up to that time, and then is allowed to stand in the stable, is likely to cause sickness and probably death when the horse is taken out again to work.

Fortunately a farmer has the opportunity to select the best hay, oats and corn that he raises, and feed these to his horses. That helps greatly in keeping the digestive system in good working order. Perhaps one of the mistakes most frequently made is in feed-



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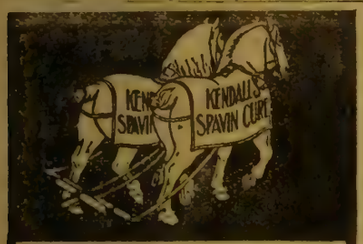

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ing oats to work horses that are turned out on grass at night. Corn is safer to feed with grass. Especially if grass or clover is of luxuriant growth the oats seem to predispose to colic. The horse pasture is usually near the barn and is small, and it is so very handy in which to turn the calves or any other stock that must be brought up to the barn ayain, that the vrass then is usually kept short. The horses must pick longer to get a fill and that prevents injurious results that might otherwise follow.

KEEPING SHOULDERS CLEAN AND SOUND

A man complained that he had too many sore-shouldered horses and asked his friends to take a look at them. The collars fitted well enough. In fact, some of them were rather on the snug side; most of them were new and all were dirty. A visit to the barn revealed two or three old brushes rather devoid of bristles and some old currycombs. There were no rubrags, no sponges, nothing to encourage teamsters to clean their horses. One of the teams was much cleaner than any of the others. And no wonder; when that teamster returned he went to his dufflebag and produced everything necessary to put a racehorse in shape, from a sponge to a rubrag, and the rubrags were clean. The other men seemed anxious enough. They took turns with the derelict currycombs and brushes, but they seemed quite ignorant of the uses of the rubrag and did not even tear up gunnysacks. The result was that the horses' shoulders were left dirty, and some greasy dope having been applied for several days the sores had gathered a maximum of dire. Proper tools were issued and dusting powder substituted for the unguentum, which the foreman pronounced "Annie Guentum." Within a week the shoulders that were not entirely healed were at least on the high way to recovery. The men were not only using the rubrags in the stable, but were carrying one with them to rub off the horses' shoulders in the field when they became sweaty and dirty. Owning $200 horses and allowing their shoulders to become sore from lack of proper cleaning conveniences is one of those things that probably no man understands except the one who practices it.—L. Ogilvy in Breeders' Gazette.

OATS AND RAPE FOR PASTURE

"I have read with interest your various articles on pastures for hogs. I plan to sow a small field with a mixture of rape and oats. How much per acre should I sow, and how many pigs should it carry per acre in summer?"

On rich ground, rape will furnish an immense amount of pasture, but on poor ground it does not amount to much. On ordinarily good ground, in the average season, we would expect an acre of rape and oats to support, during the season, about three sows and eighteen spring pigs. This is on the assumption that a fairly heavy grain ration is fed, and that the rape and oats are allowed to get a good start in the spring. It ordinarily seems best to allow the rape to get at least ten inches high before beginning to pasture. Also, it is best to give it a rest when it is reduced to only four or five leaves per stalk. Sow as early as possible at the rate of six pecks of oats and five pounds of rape per acre.

Don't let the cutworms destroy the products of your toil in the garden. They can be poisoned. Mix 25 pounds bran, 1 pound paris green and 3 finely chopped oranges and lemons. Add enough cheap molasses to make a stiff dough. Distribute this over the infested garden or field just a little near each plant. The best time to put it out is in the evening.

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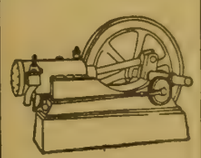

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Thought She Would Lose Child.

During the hot weather young children are very much subject to diarrhoea, in fact, more so than adults, on account of the more delicate construction of their constitution. It behooves every mother to look after her children on the first sign of any looseness of the bowels, for if they do not some serious bowel trouble such as diarrhoea, dysentery. cholera infantum, cholera morbus, summer complaint, etc., is liable to follow, and they will perhaps, loose their little one by not taking the precaution to check this looseness of the bowels by using Dr. Fowler's Extract of Wild Strawberry.

Mrs. R. J. Hillis, St. Mary's, Ont., writes: "My little girl was so bad with diarrhoea the doctor could not cure her, and we were sure we were going to lose her. A friend of mine told me to use Dr. Fowler's Extract of Wild Strawberry, so I sent for a bottle right away, and by the time I had given her one bottle she was able to sit up, and before I had the second bottle used she was cured. I tell everybody about this sure cure. The price is 35c. a bottle, but it is well worth it.

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POULTRY.

THE LICE AND MITE TROUBLE WITH CHICKS

The development and growth of the young chick can be greatly hindered by the presence of lice and mites. They will sap away its life and even if it is able to withstand them, will be weaker and undeniably tardy in its growth and maturity.

There is considerable difference in the treatment for chicken lice and chicken mites. The lice do not stay on the coop or chicken house, but on the chicken itself, so that the disinfectant must be applied directly to the chicken in the form of a lice powder, dip or spray; while the chicken mite stays in the cracks about the coop or chicken house or in crevices in the roosts or nests ready to come out at night and go onto the body of the chicken. To effectually rid the premises of mites, it is necessary to apply the disinfectant preparation in the form of a spray over the whole inside of the chicken house or coop and in all the cracks and crevices and over all the roosts, supports, nest boxes and dripping boards. Good results are to be had in killing mites by spraying with creosote oil and kerosene. This readily soaks into the cracks and crevices and destroys the mite as soon as it comes in contact with them. Crude carbolic acid and crude petroleum can also be used to good advantage.

As a home remedy for body and head lice, use a mixture made up of three tablespoonfuls of lard, one teaspoonful of kerosene and ten drops of some disinfectant mixed warm. Apply a few drops of this mixture to the head, around the vent and under each wing of the chicken. This will rid them of the lice.

Cleanliness is a very important factor in keeping the chicks free from mites and lice. The coops, hen-houses and roosts should be kept clean and plenty of whitewash used. It not only improves their quarters but adds very greatly to the appearance of the chicken yards. Move the coops for the young chickens on to new ground about every two weeks, and locate close to some young clover or fresh grass land.—P. H. Eaton.

WHY KEEP THE ROOSTER

In the matter of egg production there is only one time in the year when the male bird is a desirable creature on the poultry plant. Chicks are necessary to keep the flock going from year to year, and for this reason a certain amount of breeding work must be carried on each spring season. Then and then only is the male bird necessary. Except during the breeding season the male should be kept away from the females. He may be considered a nuisance, for he is not necessary and is often harmful. As far as the growing stock is concerned, pullets will grow better if the cockerels are separated from them as soon as the sexes can be distinguished. The cockerels will grow better, too, and they will make better roosters and better breeders. The pullets will develop into better layers and, therefore, it is profitable to select the growing stock early in the season. Throughout the summer months the hens will lay better if the cock birds are not left with them. Furthermore, where males are kept away from the laying flocks the eggs produced are infertile.

In an effort to control lice do not dust birds and grease them at the same time. Dust the birds with Persian insect powder, which is a very fine dust that will clog the breathing pores of the pests.

When chicks are brooded with hens it is frequently the custom to feed the birds on boards in front of the brood crops. Then the boards and coops are moved occasionally and it may expose mould which has been growing on the ground under the boards. If the chicks scratch in this mould or eat any of it the result will be sickness so it will pay to clean off the mouldy soil if any of the fungous growth are noted around the brood coops.

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The National Service Board of Canada,
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27

WEED OUT THE MALE BIRDS

(Experimental Farms Note)

The worker bees put their house in order by killing off all the mal ebees as soon as their services are no longer required. What a great benefit it would be to the poultry producer and the poultry product consumer if the hens of the flock would likewise dispose of the male birds in those flocks that are indifferently managed. The worker bee permits no star boarder to loaf around and consumo the product of her labour. The hen is not like the bee in asserting her rights. If she were, then her verdict would be, "Rooster you must die."

There are over two million five hundred thousand roosters of the various breeds of chickens kept for breeding purposes by the people of our country. Of this vast army perhaps one hundred enough as individuals and in breeding and fifty thousand have a right to live for another year of service. One hundred and fifty thousand may be good enough as individuals and in breeding to be used in the increase of their kind. What of the two million three hundred and fifty thousand that are usually permitted to live, birds that consume feed, worry the hens and reduce the quality of market eggs?

The function of the rooster is to develop and distribute germ cells, during a short period of three months, February, March and April. These germ cells should be distributed only to such egg-laying individuals as are desired to perpetuate the breed. The germ cell is a living organism capable of starting a chain of development and here is where the mischief lies if they are distributed where they do not serve their proper function in race perpetuation.

The function of the modern hen is to produce eggs, ten percent of which may be desired for the increase of the breed and the remaining ninety per cent for human food. Nine eggs are used for human food where but one is used for hatching. Only one-tenth of the eggs that a hen lays require fertili ation. Why fertilize the nine-tenths of the product that is used for human food? The addiiion of a living germ cell to an egg that is produced for human food does not add anything to its value and may set up a chain of embryo development that will make the egg quite unfit for human food.

Eggs gathered from flocks where the roosters are permitted to run after the hatching season is over, are not desirable for storage. They are not desirable in the pantry during periods of warm weather as high temperatures will start incubation. Eggs in the first stage of decay are not desirable for human food.

It is an easy matter to prevent the fertilization of eggs. If the male bird is just an ordinary one an axe and a block of wood will prevent further mischief. If the male bird is possessed of such merit as would warrant his being boarded for a year to be used in the next season's breeding operations, then give him an enclosure of his own and see that he stays in it.

The cost of the feed consumed by an ordinary rooster is about twenty cents per month. Can you afford it? If you keep poultry with profit as your object, can you afford to keep a star boarder for nine months and perhaps have him doing mischief all tho time?

The two million, three hundred and fifty thousand odd, unnecessary male birds are costing the country about three and a half million dollars per year while enjoying life. These unnecessary birds are at the same time doing about ten million dollars damage to the egg-producing business. If every person owing a rooster would manage him as a male bird should be managed, the poultry industry would be benefitted by additional profits many million of dollars.

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LAYING HENS INDICATED BY OUTWARD SIGNS

General use of the trap nest during the past few years has brought to light many supposed correlations between external characteristics and ability to produce large numbers of eggs. As a result quite a few systems of selecting laying hens have been worked out These external indications of production are of some value to the close observer. but other conditions have a decided influence on the prominence or absence of some of these external characteristics. This is especially true in reference to the amount of yellow pigment in the shanks and ear lobs of White Leghorns and similar breeds.

The theory is that the heavy layers gradually utilize the bulk of the yellow pigment, thus changing the color of the shanks and ear lobes from a rich to a pale yellow or whitish color. In applying this theory those with the least indications of yellow pigment in the shanks, ear lobes, skin and plumage would be chosen. Actual applications bring out some interesting facts.

In a certain test it was found that rich orange-colored shanks did not fade out nearly so fast as light lemon-colored shanks. Some birds had pale shanks after producing twenty-five eggs, while others had yellow shanks after laying more than 150 eggs. Some birds had white ear lobes before they began to lay. Clearly, the absence of yellow pigment may or may not be indicative of heavy production.

These exceptions to the rule, however, do not necessarily imply that the results of its application are guesswork or luck. Given certain conditions, the application of the theory may be of considerable value to the poultry keeper. As a general rule, the absence of yellow pigment in hens that normally have yellow shanks and ear lobes is a fairly accurate indication of past heavy production, provided the birds are of good vitality, have been fed on yellow corn and supplied with good grass range or runs.

The time of molting is another fairly reliable external indication of heavy production. Analyses of trap-nest data indicate that the heavy layers are generally late molters. In a recent study the careful application of this theory showed that none of the birds that were halfway through the molt by October first were high producers, and that only a small percentage of the late molters were low producers.

Another point of interest observed was that the late molters molted late regardless of whether it was the first, second, third or fourth year of production. It was also noticed that late molters molted rapidly and began laying almost as soon as those molting earlier.

Shape or conformation, health and vitality as indicated by the condition of the comb and other parts of the body, activity, ability to consume large quantities of feed and size of the abdomen are other points round which theories of production have been built.

The application of these theories in practice is difficult and unsatisfactory, largely because of the inconsistency of the results obtained. A bird may have a long back, a full abdomen that gives a wedge-shaped appearance, be a healthy, active disposition, and still turn out to be a very ordinary producer. On the other hand, a bird more or less the opposite of this type may prove to be a very good performer.

My own observations have been that the bulk of the high producers are about the scrawniest-looking birds in the flock. Some have short backs and wry tails; others have long backs; some are big and some are small; some have large combs and some have small combs; some are of the so-called wedge shape and others seem to be built on an entirely different plan; and we can continue to compare the different points until we decide that there is as yet no such thing as a consistent egg type in birds of high production.

It is not my intention to convey the thought that these points are of no value in selecting heavy producers; for when it is possible to find them in early producers, late molters or in birds usually having yellow shanks and ear lobes that have become pale because of heavy production, we have all the more reason to believe that such individuals are exceptional performers.

Of all the external indications of heavy production that may be observed with some degree of accuracy without the aid of the trap nest, the most valuable are early production during the pullet year, late molting, and the absence of yellow pigment in the shanks, ear lobes and plumage of birds normally having yellow shanks, when conditions have been such as to maintain the supply of yellow pigment. It is possible, without any great amount of trouble, to observe these indications and, when they are carefully observed and applied in the improvement of the flock, substantial progress will unquestionably be made.—C. L. Opperman in O. V. J.

The excessive feeding of cabbage is believed to have caused chicken pox and one point which seems to prove that contention is the fact that there has been scarcely any chicken pox this year and also very few cabbages used for chicken feed. Mangels are a very good green feed and considered far safer than cabbages by some poultrymen.

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

HER BROTHERS FARM

The rain was falling heavily when Hope Justin alighted from the train at the little station of Poplarville. It did not take her many minutes to examine the crowd and to ascertain that her brother was not in it. "I wonder what can be keeping him?" she thought to herself. "Surely my letter could not have been delayed."

Just then a hand was laid on her shoulder, and a voice which she knew so well said, "Hope, I'm so glad you've come." "Why Laurence, I was afraid you weren't here," she exclaimed.

Greetings were soon over, for it was not pleasant standing out in the rain. "Come," said the man, "my horse and buggy are just over here." As he tucked his sister in he said, "Now, Hope, I know you are just longing to ask dozens of questions, but not a word until we get home." All right," she replied, with a faint little laugh, "I suppose I shall have to obey."

As they drove slowly along the street in front of the few buildings from whose windows the light streamed, Hope looked earnestly at the man at her side. Surely this grave, quiet man was not the gay, boyish Laurence of one year ago.

"Here we are," said Laurence at last, as he sprang from the buggy. Hope was startled, for she had been almost asleep, but, with her brother's aid, she managed to clamber out. "Come right in," he said, as he led the way to the house. As he opened the door he said, "I'm afraid you'll find things in pretty bad shape here, but this batching is just awful!" After showing her where the provisions were, he went out to see to the horse, leaving her to prepare some supper.

The next morning the sun was shining brightly, and the whole world looked fresh and gay. When breakfast was over and Laurence had gone to work, Hope stood in the doorway and looked about her. The three children were playing happily in the yard. It seemed to them that a fairy had come straight from fairyland to them. Of course they had known that she was coming, but they had not thought much about it—they had too many childish troubles of their own to bother about anything else. The two older ones had welcomed her at once, but Master Harry was doubtful. He was very young when the family went to visit at Milford, and consequently did not remember his aunt. That morning, when his father brought him home from Mrs. Read's, where the children had stayed while Mr. Justin went to town, he had half a mind to revolt, and have nothing to do whatever with the strange lady; but something in her brown eyes, together with a piece of cake which she held in her hand, proved too much for that young gentleman. He at once joined forces with her, and from that day forward they were the very best of chums.

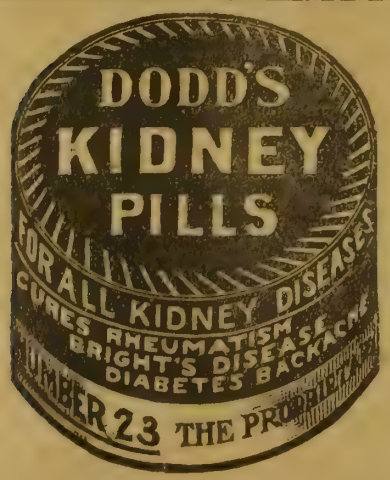
"I believe," said Hope to herself, as she surveyed the tumble-down condition of everything about her, "that this farm could be made into a beautiful place. Laurence has never bothered much about the look of things. He has been too busy trying to make money; but, perhaps, if I see about fixing things up inside, he will try to make things look better outside. I think I'll just have a look around right away."

The house contained five rooms, but two of them were pretty well filled with Laurence's tools, some large packing boxes, and everything, in fact, that was not wanted in any other part of the house. Hope saw at once that a very comfortable little home could be fixed up. Edna, her sister-in-law, had never spent much time making things look cosy and homelike. The days always seemed far too short for her to do what really had to be done. It was the same with Laurence. He never spent any time making his farm look neat and attractive. What wasn't really necessary was never done.

"We will see," said the girl aloud, "but I really must do some washing and baking to-day, so I shall have to leave my house cleaning for another day."

Just when they had finished eating dinner, which, by the way, was an excellent one, a neighbor rode up to the door and handed Laurence a letter. Anxiously he tore it open and read it; then he exclaimed, "Hope, the doctors at the hospital feel quite sure that by next fall Edna can come home!"

Of course, this caused great excitement all around. When her brother could really give a thought to common everyday matters, Hope said, "Laurence, don't you think that it would be a good idea to fix things up and make your farm more beautiful? A coat of paint applied to the house, barn, and hen-house would help wonderfully, and you know your fences are really badly in need of mending. You told me that Edna did not seem very contented here, and that you sometimes thought you would have to sell out and go to town to live. Why not make this place more pleasant and homelike instead? To tell you the truth, I do not blame Edna for being discontented, for it must seem dreary to her after the beautiful home she left to come here. I am sure that if some changes were made, anyone could love this place. The trees and the little brook down by the road are just what I have always longed for." After a moment's pause, she said, "I have a plan; may I present it?" Laurence nodded, so she continued, "Why not plant grass and flowers out at the front where you planted the potatoes last year? It would help more than you would think, for you could put a door in the room where Dot and I sleep, and make a nice comfortable front room out of it. The attic room can be made into a bedroom for us. I know that it would do splendidly."



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Laurence stood looking thoughtfully at the floor for some minutes, then he said, "Well, Sis, I guess you're right, and we'll try to make things a bit better around here."

In due time the room in which Hope and Dot had slept, and the attic room were cleared. Hope did this while her brother was plowing a place for the lawn and another for a garden. When everything had been moved from the front-room-to-be, the walls and ceiling were tinted a deep cream. New muslin curtains with a pink rose border were hung at the windows, and Hope got out her stencilling outfit and did a border around the room to match the border on the curtains. An inexpensive carpet with brown and rose colorings was bought for the floor, and Hope added two large wicker chairs, a little table, and a couch, while Laurence made a bookcase to stand in one corner.

The rest of the house was whitewashed, and plain white muslin curtains were put on all the windows. The wide porch on the south side of the house was boarded up and converted into a kitchen. Although none of the other rooms were quite as pretty as the "new room," as the children called it, yet they were all beautifully neat and clean. Hope sent home for some pictures, and when they came, they added a great deal to the charm of the rooms.

At length the time for planting the garden arrived. Then came fun for all. While Laurence worked in the fields, Hope worked in the garden. With her help each child planted a little flower garden, and many were the happy hours afterward spent in them.

After seeding, Laurence went to work with a will to make his farm look better. The house, barn and henhouse were all painted, and the fences repaired. A new picket fence was made around the lawn, and a red brick walk extended from the gate to th walk extended from the gate to the front porch. Laurence found many little things, too numerous to mention, to be done, but, small though they were, they all helped to make his home more beautiful.

On the first of August word came that Edna had made wonderful progress, and would be home in a week. To Laurence and the children that week seemed the longest one in their lives, but to Hope, anxious as she was to see her sister-in-law, it went all too quickly. There were so many things to be done in the house, and only one to do them. Of course Dot was anxious to help, but little girls of eight, although their intentions are good, are very apt to get in the way, in their efforts to be useful. In order to have a clear field for operations, Hope tried to keep the children busy gathering eggs, looking after the little ducks and chickens, and weeding their flower gardens.

At last the week was nded and Edna came home. As she and Laurence drove along the road that morning, she asked many questions; but husband had pledged himself to keep silent, so Edna got little information. At last, telling him that he had developed into a staid, taciturn old bachelor in her absence, she gave up, and contented herself with looking about her

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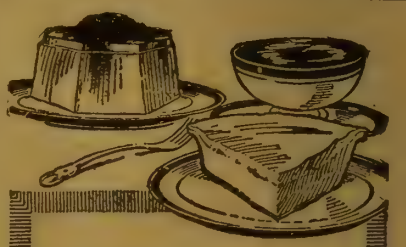

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——the sugar that's refined in Halifax from the raw product which comes direct from the cane fields of the British West Indies. Obtainable also in 2 and 5 pound cartons, 10, 20 and 100 pound bags, half barrels and barrels

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Halifax, N. S.

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KINGSTON ONTARIO

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APPLIED SCIENCE
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HOME STUDY
Arts Course by correspondence. Degree with one year's attendance.

Summer School July and August — Navigation School December to April

15 GEO. Y. CHOWN, Registrar

Advertise in the FARMER

at the wonders which Mother Nature had wrought since she last drove along that road. As they turned a corner, Edna gave a cry of surprise and joy. "Oh, Laurence, how lovely "

The scene that met her eyes might well give rise to those words. There, basking in the morning sunshine, stood the little white and green house, over whose front porch climbed hops and wild cucumber vine. In front, encircled by the white picket fence, lay the lawn, like a soft, green carpet. On either side of the porch steps a tall golden glow bloomed in rich profusion, while on both sides of the walk a double row of pansies and nasturtiums lent their beauty to the scene. Along the south side of the fence sweet peas and baby's breath mingled in perfect harmony, and on the west, between the trees on either side of the gate, bright poppies and sweet white daisies nodded their heads. On the north a large garden of mixed flowers smiled their welcome. Beyond the house, with a background of lovely trees, stood the barn and hen-house, both in their new red coats.

"Why, it doesn't look like the same place " gasped Edna.

Just then the front door opened, and out came Hope and the three children. What a time there was, then! It seemed that the children could not possibly make their tongues work quickly enough. They all talked at once, and each tried to tell something different. Poor, bewildered Edna begged for a breathing space, and Hope, with some difficulty, chased them off to gather the eggs.

While they were gone, Edna had time to look around her a little. "Oh," she said, "I feel as if I can rest here, it's all so lovely and fresh." Just then Laurence and the children came in for dinner.

That evening, when they had all gathered on the front porch to enjoy the cool stillness of the evening, Edna said: "Hope, Laurence and I both want to thank you for what you have done to help make our home what it is now. I feel as if I never want to leave ti again. There is now no danger of me wanting to go to town to live. You have been so good and unselfish to stay here all this while. Why, I don't know what would have become of Laurence and our kiddies if it had not been for you." I don't know, either," came earnestly from the steps where Laurence sat.

"We would love to have you stay with us," continued Edna, "but you have been here for so long that you must be getting lonely for home. If you feel that you would like to go, just say so."

"Oh no, Auntie Hope, don't go away," came in a chorus from various parts of the porch. "No," said Hope, rising as she spoke, "I shall stay with you until you are quite well and strong again. I have never once been homesick since I came. I get letters from mother and father every week, and although I sometimes feel that I should like to see them, yet I am quite happy and contented here, so please don't try to pack me off home for a while. Good night everyone," she said with a little laugh, as she disappeared through the door, and they heard her singing softly to herself as she made her way up the stairs to her little attic room. "What a dear, good girl she is," breathed Edna, lovingly. "Indeed she is," answered Laurence, softly.

SAVE THE VEGETABLE WATER

One of the economy suggestions recently made was to save the water in which vegetables had been boiled. "This water contains nutritious juices," it was stated, "and makes very good soups and sauces—only a slight economy, but very worth while when we consider what the women of other countries have done to solve their food problems."

This is really a very good suggestion and one that the average French housewife would readily understand; for the French housewife has for long made use of vegetable water to enrich sauces and soups. But from that above-quoted suggestion, what could the average housewife do? There is nothing in the appearance or taste of the water in which carrots or onions or even priceless potatoes have been boiled to suggest anything very delectable. Still we know the goodness is there. Food chemists even assure us that very important minerals are extracted from the vegetable in the boiling process and it is all the more necessary, therefore, that we should make use of this vegetable water. Well, here is a suggestion or so.

Suppose you have been cooking beans of any kind. Save the water. And when the beans come from the table in the vegetable dish you will be sure to have some left over. Return these to the bean water and simmer them gently. When well cooked to pieces rub the beans through a sieve as much as possible. Let this liquor cool and when you are making ready next night's dinner, place a large tablespoonful of flour in a saucepan with a teaspoonful of butter. Rub together and then mix with it a half cupful of milk. Place over the fire and stir till it thickens. Then gradually add the juice and puree from the beans. Season with pepper and salt. If you have a little beef or lamb gravy left on hand add it to the soup. Or, if you wish, add a teaspoonful of soup extract. If you had a few bones—beef or lamb—you might have boiled them with the beans when simmering them, in order to get the meat flavor; however the meat flavour is really not necessary.

Here is a way to make use of vegetable liquor in brown sauce that is delicious as a dressing for macaroni or rice when served as a potato substitute. Place a finely cut up onion in a saucepan and fry brown in a tablespoonful of flour and allow it to brown slightly without burning. Now add a cup and a half of vegetable water and cook it till it thickens slightly. Season to taste.

The addition of a very little parsley or other fresh herbs improves the flavor. A teaspoonful of ketchup added to a sauce made from vegetable water adds zest and is especially good when served with macaroni.

THE SUMMER STOVE

This advice is not for those who live in the inconvenient city with its dust, noise, confusion and gas ranges. No, take your ease, enjoy your comforts along with annoyances country people never have and envy the latter more than ever for the new oil stoves are almost equal to some gas ranges that are considered mighty fine.

The oven built on fireless cooker principles that cook by retained heat are one new thing that makes oil-stove cookery simple and interesting. By thoughtful planning a selection of foods can be cooked so that every particle of heat from the moment the fire is lighted until the oven is cooled, can be utilized. Of course, this applies to any oven, but as I told you, this is for those who use kerosene for kitchen fuel. When cakes are mixed, ready for baking, place them in a cool oven and they will rise as the heat increases. Gingerbread and all rich mixtures are better flavored by long baking than if put directly into a hot oven. When the cakes are out put in the roast, pudding, pies or such foods as need high heat. Reduce the heat when the articles are almost cooked and

Eureka Potato Digger

Gets the Potatoes and separates where other diggers cannot

A strong statement, but an actual experience many times, saving growers more than the cost of the Digger. Ask us for the proof.

The Eureka elevator and duplex shaker provide more separation than other diggers. Large wheels and main gears supply ample power. Mostly malleable and steel. Running frequent breakage and lost time. Growers report digging 80 or more acres without repairs. High clearance over shovel prevents weeds and vines bunching. Has vine-turner attachment.

6-ft. and 7-ft. sizes; several styles.

FROST & WOOD CO., Ltd., St. John, N. B.

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GET THE CREAM

The delicate and close fitting mechanism of a hand separator requires a quick-acting, high-grade lubricant.

Standard Hand Separator Oil

is manufactured especially for use with hand separators. It is free from all impurities, will not gum, and serves also to protect the machine from seam rust and corrosion.

Sold in pint, quart, half-gal., gal. and 4-gal. cans. Reliable dealers everywhere.

THE IMPERIAL OIL COMPANY
Limited
BRANCH STATIONS THROUGHOUT CANADA

SUFFERED TERRIBLY

WITH HEART AND NERVES.

WOULD WAKE UP SMOTHERING.

Milburn's Heart and Nerve Pills Cured Her.

Mrs. A. M. Powell, Norval, Ont., writes: "I cannot speak too highly of Milburn's Heart and Nerve Pills. I suffered for five years with my heart and nerves, but the last two years I have suffered terribly. If I went to bed I would wake up as if I was smothering. I did not get one night's sleep out of seven. I got so very weak that the doctor was called in, and he said it was my heart, and that I must take great care of myself. I saw your advertisement in your almanac for Milburn's Heart and Nerve Pills, and said I would try them. I have only taken two boxes of them and I feel a new woman. I will recommend them to anyone afflicted with heart trouble."

Milburn's Heart and Nerve Pills are 50c. per box, at all dealers or mailed direct on receipt of price by the T. Milburn Co., Limited, Toronto, Ont.

put in the vegetables that can be roasted or baked. When these are done and the oven empty and somewhat cooled, put in the bread. This rises very much in the oven if the first heat is kept low. However, thick-crusted, dry tasting bread is the result of too long baking, so govern yourself accordingly and do not bake bread longer than 40 minutes. When the bread is in you may be able to make room for a crock of beans or an escalloped dish of some cereal or vegetable that can be cooked now and reheated to good advantage later. Heat may be turned off entirely after the food is two-thirds done, if the oven is properly lined. Enough heat will be retained to complete the cooking.

If your oven is an asbestos lined one you may be able to do fireless cooking in it with the help of soap stones. It costs but a little time to find out and in summer the convenience is a most helpful one. Heat the oven until the indicator shows the "high heat" point has been reached. In the meantime have the food to be cooked well, heated through and bubbling briskly, as food in a fireless cooker does not get hotter than it is when put in. Heat the soap stones, which may be bricks for experimenting. Put these in the oven, then the food closely covered and close the oven. You can tell how well the heat is retained by watching the thermometer.

Some of the attachments for oil stoves that make these pleasant to use are the covered broiler with drip pan to catch the juices and the toasted and special griddle. There is also a hot water heater that is efficient and low priced.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Maritime Farmer, Sussex, N. B. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no patterns will be sold under 15 cents each, owing to advance in cost of same.

When ordering, please use this form:—

Send the following pattern to:

Name .....

Post Office.....

County .....

Province .....

Number of Pattern.....

Age (if child or misses' pattern).....

Measurement—Waist .....Bust.....

Date of issue in which pattern appeared. .....

CHILD'S DRESS.

By Anabel Worthington.

A girl begins to take notice of her frocks almost as soon as she passes the "rattle" age, but not until she has gone over the sixth year mark does she know how to take the necessary care of them to make mother's work easy. Therefore mother should select such dress models as will be no work to make, to launder or to slip on and off the girlie.

This illustration suggests the correct way to make a day dress for a girl of from two to six years of age. It shows the front with a yoke that is finished for lacing after slipping the frock on over the head. The upper edges of the dress fronts are neatly gathered and joined to the yoke, and a belt with its ends buttoned to the front sides is arranged over the back fulness. To match the sailor collar, the belt is of contrasting color goods; the cuffs on long sleeves have a piping to correspond. It rests with you whether the short sleeve is to be used instead.

For a play dress linen, gingham, cotton cheviot and like weaves are suitable, and for kindergarten wear plain ground woollen weaves and wool plaids and checks are excellent. There are no buttons or buttonholes to bother with and really one can cut out and finish several of these little dresses in a very short time.

The dress pattern No. 8114 cuts in sizes two, four and six years. To make in the medium size requires 1¾ yards of 36 inch material, ½ yard contrasting goods to trim 32 inches wide.

To obtain the pattern send 10 cents to the office of this publication.

GIRL'S DRESS.

By Anabel Worthington.

To help make school days the happiest in a girl's life Fashion is favoring the younger generation to a very marked degree when it comes to dresses. Look at the illustration and you will be convinced.

Of course, the collar of this dress is a big feature, for it is stylish and particularly becoming in its cut, but there are other attractions. The frock is made with a body lining and has the waist fulness gathered at the lower part, so that it blouses prettily over a two piece gathered skirt, making a belt unnecessary. The vest of contrasting goods—either silk, satin, piqué, crepe or broadcloth in opposing color—is finished at the top with a band of the dress material; the full length sleeves have a deep roll cuff of material in the vest, and the button decoration is a detail that is in excellent taste. When the girl turns her back we see a divided cape effect of the collar, so that the back view is as fascinating as the front.

Wool checks, plaids, serges, gabardines, &c., make charming little frocks for juniors, and any one of these will be suitable for the design. To distinguish it as a "best dress" velveteen, satin and other rich fabrics may be considered. If you will give this simple pattern a chance to prove its worth you will be pleased with the result.

The dress pattern, No. 8,121, cuts in sizes 6-14 years. To make in size 10 requires 2⅞ yards 36 inch material, ⅜ yards contrasting goods and ½ yard 36 inch lining.

To obtain the pattern send 10 cents to the office of this publication.

WHAT IS COLD PACK CANNING METHOD?

It was said in a previous article that the "cold pack" method was the one that the home housewife should follow, since it is the most successful for both fruits and vegetables and the easiest to follow.

" Cold pack" does not mean without heat; it means that the products are packed, cold, into sterilized glass jars. To the fruits, hot syrup is added; to the vegetables boiling water and a little salt. Then the sterilization is done in the partly sealed jars, making it impossible for spores to enter.

This does away with all standing over the open fire or handling hot foods, so that canning is not so unpleasant. For after the jars are once filled, then the work of sterilization can proceed almost automatically.

If vegetables are to be canned in this fashion the process of "blanching" should precede. This means that vegetables are first subjected to a quick bath of boiling water or live steam, then quickly plunged into cold water; then packed and the general directions followed.

Blanching has these advantages—it removes some of the excess flavor, especially with strong beans, cabbage, etc.; it reduces the bulk of the foods so treated; it whitens and makes firm many other foods and removes the skins most easily.

Another advantage of the "cold pack" method is that it has but one period of cooking—foods are packed cold into the jars, filled with hot liquid, then sterili ed at one time. This again saves labor and can lifting.

After the jars are filled with the food cut into convenient pieces or shapes, the boiling liquid must be added. If this is syrup, the thickness or "density" must be carefully noted. Certain fruits take syrup of one thickness, while others differ. The following table of syrup density will show what per cent. sugar solution results:

	Qts. water.	Syrup.
1 lb. 9 oz. sugar	3	25 per cent
1 lb. sugar.....	3	16 per cent
1 lb.....	1½	32 per cent
2 lbs. 3 ozs.....	3	35 per cent
2 lbs. 8 ozs.....	3	40 per cent

A common used syrup is three quarts of water and two quarts of sugar, boiled to a medium thin, medium thick or thick syrup.

This syrup is sugar and water boiled to dissolve sugar, but not sticky. Medium thick syrup is that which has thickened enough to roll or pile up over the edge of the spoon as it is poured out.

Medium thin is that which has begun to thicken and becomes sticky when cooled on the finger tip or spoon.

Thick syrup is that which is difficult to pour out of a spoon.

ARMS AND ELBOWS

A well known photographer recently told me that a really beautiful feminine arm is a rarity. And when I asked him whether the fine college and school athletic training most of our girls were getting did not benefit them, he said, "Yes, but a muscular arm is not necessarily a beautiful one."

Fortunately, however, the arm is easily beautified, more so than almost any other part of the body. But results will not be seen for a day or a week, or for several weeks. The beauty seeker must persevere.

First of all the skin is to be treated. The arms should be scrubbed in hot water with a little almond meal in the water, with soap and a flesh brush. This will make the skin red, but in time will produce a milky-white, clear, beautiful color. Then the whole arm is massaged with flesh-building cream or olive oil, and the more undeveloped parts are gently pinched with the fingers. The elbow—which unfortunately is rarely pretty—is massaged by placing the thumb of the opposite hand inside the bent elbow as a pivot, while the fingers massage in circular fashion about the outer part of the elbow.

Then, the arm is held out straight, the fingers spread apart. The hands are slowly drawn up into a fist, the fingers being as stiff as possible, so the tensing of the muscles can be felt along the lower arm. This is repeated several times. To develop the upper arm, the hands are made into fists and the arm is bent back upon itself, the

hands drawn towards the shoulders, the muscles being stiffened as much as possible.

NERVES

Nerves are the real or imaginary evil of almost every woman's life. It is doubtful which sort is worth to possess. The fancied kind can be cured by will power, but the real ones require a more devious method of cure.

There are two splendid things to do to overcome a nervous condition. One is eat, the other, sleep. Fat people are never nervous, big eaters are seldom nervous. When there is food in the stomach, the blood is drawn down from the brain, and, for a time at least, the nerves are quiet. And gradually sufficient good food will build up the system.

Sleep, of course, is another rebuilder. The nervous woman needs nine hours' sleep at least, either all at night, or at night and during the afternoon in the course of a nap. Then hours would be better yet.

However, neurotic women are apt to toss about and to sleep uneasily. The best way to overcome this—and this is good for the looks and should be practised by all but fat women—is to eat a few crackers and to drink a cup of hot chocolate or hot milk, just before getting into bed. This draws the blood from the brain, and induces an early and a dreamless sleep.

The nervous woman is never pretty. She is apt to have hollow cheeks, and the run down system shows itself by deep circles under the eyes, and fine lines that creep into the face. The eyes seem dull too. Besides, the nervouse woman being restless herself, has a restless effect upon her companions, so never gets credit for being fascinating.

SCOTCH HASH

One onion cut fine and cooked a little in beef dripping, then add cooked meat that has been put through meat chopper, and one-fourth as much fine crumbs of dried bread. Add salt and pepper and some gravy. If very little, add a little hot water after cooking a while. Cook slowly half an hour or more, turning carefully to brown it all. This is very rich and is better made of cooked roast beef, which is generally the poorest meat for hash. No vegetables in this hash.

SALMON LOAF

Take one can of salmon, freeing it from skin and bones and separating in fine flakes with a silver fork. Mix with two well-beaten eggs, one cupful of fine breadcrumbs, salt and pepper to season, one tablespoonful of lemon juice, one tablespoonful of melted butter, one tablespoonful of finely chopped parsley. Pack into a well-buttered mold, steam for one hour and put into the oven to brown.

To improve the flavor of an apple tart sprinkle the fruit with lemon juice after it is put into the dish and cover with tiny pieces of butter, then add sugar and nutmeg or cinnamon.

The Crisis!

Untold sacrifices are being made in defence of the world's liberty, assailed by the Hun, who declares he fights for "existence." Let us not forget that other crisis in which the fate of the dread Liquor Traffic, subdued just now by the necessities of war, is also fighting for existence.

Prohibition must be impregnably fortified ***now*** by means of proper enforcement in readiness for the struggle to come when Prohibition must be finally ratified or lost by the votes of the people in many provinces, including New Brunswick.

Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia and New Brunswick have adopted Prohibition during the war. Prince Edward Island has enjoyed its benefits since 1901. The great majority of districts in Quebec are "dry." That is the situation to-day, but remember, the crisis comes after the war.

SIR VICTOR HORSELEY AND HEREDITY

"That alcohol affects disastrously the minds and bodies of innocent, unborn children must be the undoubted conclusion of those who weigh the Evidence."

The total value of foodstuffs destroyed by the liquor traffic in 1916 was approximately $4,244,090.22. Add to this the immense waste of transportation facilities, clogged and hindered by carrying the grain to destruction, and again conveying the product of the breweries and distilleries to make precious men less efficient in this solemn hour!

Ontario's Splendid Record

Since September 16, 1916, Ontario has enjoyed good enforcement of Prohibition in all but a few districts. Not the most daring anti-prohibitionist hopes for a return of the curse of the traffic in Ontario. Here are some figures showing results in Ontario's largest cities for the last three months of 1915 and 1916:

ARRESTS FOR DRUNKENNESS

	Under License 1915	Under Prohibition 1916
Toronto	2,908	953
Ottawa	286	234
Hamilton	498	61
London	367	144
Brantford	152	16

Note.—"It will be noted that Ottawa has not much reduction in arrests for drunkenness. It is perhaps strange that it should show any reduction in the drunkenness record, inasmuch as it is separated only by the river from the license city of Hull."—PIONEER, Toronto.

Whether your district be under the new Provincial Prohibitory Law, or under the Canada Temperance Act, help us to arouse the full force of public opinion for vigilant enforcement of province-wide Prohibition.

Dominion Temperance Alliance

NEW BRUNSWICK BRANCH

DONALD FRASER, President, Plaster Rock, N.B.

REV. THOS. MARSHALL, Vice-President, Fredericton, N.B.

W. G. CLARK, Treasurer, Fredericton, N.B.

REV. H. C. ARCHER, Executive Secretary, Fredericton, N.B.

20

should be added in the rendering. Leaf lard makes the most desirable rendering, but if fat from the intestines is used it should be soaked in salted water for two or three days before rendering.

Always soak in cold water before washing all dishes in which milk, dough, egg and cereals have been cooked. Always soak in hot water all dishes that have had sugar or grease in them.

When rendering fat, throw in a handful of slippery elm bark, which can be purchased at any drug store, and the lard will keep sweet and fresh in the warmest summer weather. Any ordinary well covered crock will be all right to keep it in, and it can be canned hot. It will be advisable to keep it in as cool and dry place as you can find in your home. No salt

RICE MUFFINS

Two level cupfuls cold boiled rice, 2 leevl cupfuls flour, 2 level teaspoons of baking powder, 2 level tablespoonfuls sugar, 2 eggs separated, 2 cups of milkl level teaspoonful salt.

Mash rice. Sift flour, baking powder, sugar and salt together twice. Beat yolks of eggs, add whites beaten to stiff froth and stir into rice. Add milk and flour gradually and beat until smooth. Have the gem pans greased and a little flour sifted into each. Fill ¾ full of mixture and bake in hot oven 15 minutes. Serve as soon as taken from oven with butter or maple syrup.

CARAMEL CUSTARD

Three cupfuls of milk, 3 eggs, ¾ cupful of sugar, ½ teaspoonful of salt, 1 teaspoonful of vanilla.

Melt the sugar in a spider, stirring constantly until it becomes a light brown syrup. Scald milk and add melted sugar into it gradually and very carefully. When the mixture is smooth add it to the lightly beaten eggs; add salt and vanilla. Strain into a buttered mold, set in a pan of hot water, and bake in a slow oven until firm.

NO PERMANENT ROAD WITHOUT GOOD DRAINAGE AND SOUND FOUNDATION

(Continued from page 555)

subgrade, and the rolling and compacing of the subgrade before placing the foundation is therefore an economy. A compacted subgrade also enables the foundation of the road to better withstand the effects of heavy traffic, whereas a yielding subgrade tends to cause a sinkage of the foundation with consequent hollows and holes in the road.

Crushed stone where used as foundation for a macadam road should be not less than 6 inches in thickness when compacted, and the si_e of stone will usually be about that passing a 2½ inch ring.

Screened gravel of 1 inch to 3 inch size may be used in prace of crushed stone, and when placed in the road a filler containing some clay or loam should be spread in order to thoroughly consolidate the stones.

Such gravel does not interlock as crushed stone does and a thicker foundation course of gravel is therefore required.

Field stone used for a foundation may be laid in one course from 6 inches to 12 inches in depth and the inequalities between the stones filled with coarse gravel or crushed stone. The depth of the course should in all cases be suited to the average size of field stone available as it is not economical to break them to a definite size. A variation of an inch or so in the size of the stone is of no consequence since the surface stone will serve to even up all irregularities.

The Telford base may be composed of quarry stone which has been broken to size with a stone hammer. Such foundations have given good satisfaction when used, but the cost of hand placing the stones seems to have outweighed the advantages of this type of construction.

In conclusion it may be said that the adequate drainage of a road is the first requisite to permanence and if we add to proper drainage, a sound foundation, the cost of maintaining surface of road will be greatly lessened. Drainage and foundations are two very essential details of road construction and close attention to these points when designing and constructing a road will lead to better, more durable and more satisfactory roads.

VALUE OF MANURE FROM 24 STEERS

The manure from twenty-four steers averaging in weight close to 1,000 pounds each, and running loose in two box stalls at the Experimental Station, Kentville, N.S., covering a period of 120 days, or four months, weighed 112 tons, 640 pounds. The average for each day was 1,872 pounds or 78 pounds per steer. Straw bedding amounting to 10 pounds per steer per day was used, and all liquids as well as the solids were saved.

Chemists tell us that this fresh manure fro mfairly well fed steers contains in each ton 7¾ pounds nitrogen 3½ pounds of phosphoric acid, and 9 pounds of potash. When buying commercial fertilizer we pay 25 cents per pound for nitrogen, and 7 to 8 cents for phosphoric acid. Potash cannot be bought at any price, but in order to get at a fair valuation for the manure we should allow at least 5 cents per pound, the price of potash before the war.

A ton of the above manure at these prices would, therefore, have a value of $2.63.

At the valuation of $2.63 per ton, 112 tons 640 pounds would be worth $295.40, or $12.31 per steer, a little over $3 per steer per month. Considering that potash will each year become a greater factor in economical agricultural production, the value is even greater than that given above.

Nothing has been allowed in the above calculation for the value of the humus. It is estimated that the humus value of manures is 50 to 100 per cent. of the value of the chemical ingredients, depending upon the soil on which the manure is used and the manner of application.

It is a well known fact that half of the total value of the excrement from live stock is in the urine. If the liquid part is allowed to drain away through holes in the stable floor, or otherwise, over one-half of the value of the manure will be lost. Therefore, every effort should be made to conserve all the excrement voided by animals.

The water retained after twenty-four hours by 100 pounds of material used for obsorbents in the stable is estimated to be as follows:

Wheat straw, 220 pounds; oat straw, 285 pounds; well dried peat, 600 pounds; dry sawdust, 435 pounds; dried leaves, 162 pounds.—Experimental Farms Note.

HOW CHEESE IS BOUGHT

The following rules govern the purchase of cheese by the Imperial Cheese Commission, but are subject to alternation at any time:

1. Prices shall be fixed at which the Commission are prepared to purchase all cheese of different grades f.o.b. steamers Montreal or other ports available, at the option of the Commission.

2. There shall be three grades of cheese, known as No. 1, No. 2, and No. 3. Any cheese unsuitable for these grades will be classed as "Culls" and purchased according to their merits at the option of the Commission. No cheese will be accepted under ten days old.

3. Payment will be made in exchange for shipping documents accompanied with invoices, grader's and public weighmaster's certificates, all shipping charges being prepaid by dealers. Quantities of 500 boxes (5% more or less) to each bill of lading and invoice will constitute a delivery.

4. Payment will be made only after documents have been delivered in proper order to the satisfaction of the Commission.

5. White or colored cheese, or cheese of different grades, or cheese known as Quebec and Ontario makes, must be invoiced and shipped separately.

6. In event of delays in shipment taking place exceeding three weeks and three days from the date of grader's inspection, payments will be made thereafter under the following conditions:

Such cheese in all cases must be stored either in cold or ordinary storage, as required by the Commission, and approved warehouse receipts and fire insurance certificates must accompany invoices.

The dealer or dealers will ship such cheese at his or their own cost when instructed to do so by the Commission, giving a "bailee" receipt for his or their warehouse receipts. The "bailee" receipt will be returned to the dealers on delivery of shipping documents. In event of the Commission requiring dealers to store and carry cheese bbe yond the period of three weeks and three days, the Commission will pay the current cost of storage, interest and fire insurance.

All cheese to be coopered to the satisfaction of the Commission, and boxes clamped with iron hooping, as and when required, and shipped in good order. Cheese badly "boxed" will be graded lower.

8. Boxes are to be marked in such a manner as may be directed by the Commission, and each dealer will use a separate and distinct mark for each grade of cheese shipped by him, as may be directed by the Commission.

9. As graders can only examine samples of each delivery of cheese to the Commission, dealers shall be responsible for the weights and qualities of their respective shipments, notwithstanding inspection in Montreal, in the same manner as they would be if cheese were sold c.i.f. London rules.

10. Cheese to be free from any adulteration whatever, and all deliveries must be fresh current receipts.

Cheese held in factories or storage of any kind will not be considered a good delivery.

11. All invoices and documents must truly represent the grade of cheese tendered to the Commission, Any deviation therefrom on the part of any dealers will be deemed by the Commission sufficient reason for discontinuing to purchase further cheese from such dealers.

HOW TO EXTERMINATE RATS

Hearing a farmer remark that his entire flock of pure bred chicks were destroyed by rats last summer, it occurred to me that the ideas of one who has had some experience with rats might benefit others. I once lived on a farm on which they were in almost undisputed possession and in an effort to exterminate them I learned a good deal.

They increase rapidly, breeding three or four times a year and having about twelve in a litter. The young start t obreed at four or five months. It is estimated that they destroy ten times more than they eat, and considering heir ravages on young fowl and eggs it is well to do the utmost to keep the farm clear of them. If old straw stacks, piles of rubbish, etc., are cleared away and all safe retreats removed, a few cats (not house cats) will keep them down.

If all buildings have cement foundations 20 inches deep the foundations are rat proof, and if the space between the lath and sheathing is filled with concrete one foot high they will not enter the buildings except by the doors. For granaries, a concrete foundation and above this a half-inch mesh wire netting put round the building is very effective in keeping rats from gnawing holes in the wood round the sills to gain access. Rats will not gnaw the level surface of wood, therefore if the corners are protected with netting or sheet tin they will not enter the building so easily. No better harbor can be found than the old stone wall or foundation or the building built on wood sills with no excavated foundation.

Much ingenuity is called for in successful trapping. With wire box traps or cages it is a good scheme to put the trap inside an over-turned box, making a hole in the other box to lead right into the trap set aside. Cover the whole thing with some rubbish and put sausage or fried bacon in for bait. Leave unset for a few nights and it may contain twenty on the night it is set. If they get wise to the bait change it, or with steel traps cover with black tissue paper and do not bait at all. The ordinary figure four box trap will often prove effective when all others fail. I well remember trying for weeks to catch an old rat that seemed almost proof against traps. A barrel half full of water was set on his path. Covered with building paper fastened tight over the top. Bait was laid on it for a week. A cross was cut in the centre of the paper one evening and the whole family was swimming in the morning. We once left about twenty oat sheaves in the barn all summer. Towards fall there was no other feed round the buildings and we were surprised to find the pile moving with rat life. We went to the trouble to build a fence round this with sheet tin and netting. When the sheaves were lifed out the carnage was awful and the clean-up singularly complete. Poisons are not so satisfactory from the danger associated with their use. For rats in dwelling houses, barium carbonate is best as the rats leave the house for water and there die. This drug mixed with oatmeal and

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water, one pair poison to seven of oatmeal, or spread on fish, toast, cheese or bread and butter is worth trying. Strychnine crystals put in raw meat sausage or fat bacon is more effective than poisoned wheat. This bait is the best to use in poultry houses. It should be put in the centre of a small box and a larger box inserted over it. Holes large enough for a rat are made into each box and if fixed solid and well planned and baited are safe for chickens and effective with rats.

Another trap for poultry houses is a tin box sunk in the rat run. Two lids are made to fit loosely and hinged one-third distance from each end. A rat running out will tilt the lid and fall inside and the cover resumes its former position, enclosing the rat. If well set and partly covered it works very well. T. W. W.

CONTROL THE GRASSHOPPER

Grasshoppers did a lot of harm in New England last year. They begin to feed upon crops immediately upon hatching from the egg. Unlike many insects, there is no grublike larval stage, nor is there any resting or true pupal stage. They are active and able to hop about almost immediately upon emergence from the eggs. They are, however, unable to fly while young, as it takes from 70 to 90 days for them to develop wings. The farmer, should, therefore, attack the pest during its young stages, since not only less material and labor are required but they cannot fly to untreated fields as they often do when mature.

There are three principal methods of control: Destruction of the egg, trapping the insects in the field, and use of the poisoned baits. The eggs of grasshoppers are deposited in the ground, or in the crowns of plants. Where cultivating implements can be used, the ground containing eggs should be thoroughly plowed, or disked, and harrowed in the fall, as these operations prevent the eggs from hatching the following spring.

The most common method of trapping is by the use of a simple horse-propelled implement called a hopper-dozer. This consists of a long, shallow pan or trough, with a back and side wings rising at right angles to the pan, and is mounted on runners. The pan is constructed of galvanized sheet iron, the back and side wing may be built of wooden frame covered with stout muslin or light cotton duck, and the runners are made of wood or old wagon tires. The pan is kept partially filled with water, covered with a film of low-grade kerosene. As the hopper-dozer is drawn over the field the grasshoppers jump or fly against the back and most of them are precipitated into the oil-covered water in the pan. A slight touch of oil is fatal to the insects. These implements cannot be used on uneven, stony, or recently cleared land, nor in meadows or fields of grain where the crops have reached a considerable height. Even where they are used successfully, a good many grasshoppers escape being killed.

Poisoned Baits Best

The most effective method of control, according to a government bulletin, is the use of poisoned baits. Poisoned-bran bait has proved to be a simple, reliable and cheap method of destroying grasshoppers. This bait is prepared as follows: Wheat bran 25 pounds, parts green one pound, or white arsenate one pound, six finely chopped lemons or oranges, low-grade molasses, such as refuse from sugar factories, or cattle molasses, known as "black strap," two quarts, water three to four gallons. The bran and paris green or other arsenical are mixed thoroughly while dry, then the fruits are chopped finely and added, and lastly the diluted molasses is poured over the bait and the whole thoroughly kneaded.

A coarse-flaked bran is most desirable, although where this cannot be obtained easily, ordinary middlings or alfalfa meal may be substituted. A low-grade, strong-smelling syrup or molasses, however, is essential to the entire success of the undertaking. Crushed ripe tomatoes, watermelons, or limes may be substituted for the lemons or oranges, if necessary. Ordinary powdered white arsenic (arsenious acid) contains nearly twice as much arsenic as paris green and is comparatively low in price. The powdered form of arsenate of lead may be used; but in this case twice as much of it must be used as of the paris green.

The poisoned-bran bait mixtrue is distributed over the infested fields by sowing broadcast, either on foot or from a light wagon or buggy. A broadcast grain seeder, mounted on a wagon, has been used successfully for this purpose in the western portions of the country.

In applying the poisoned baits in orchards, care must be taken to avoid distributing it close to the trees, because severe injury o fruit trees occasionally results from such applications or arsenical poisons. In moist portions of the country, such as New England, the bait should be applied early in the morning to secrue the best results. Farmers should not be discouraged if the grasshoppers do not drop dead immediately upon eating the poison, as it usually takes 24 hours or more for the full effect of the bait to become apparent.—N. E. Homestead.

SWEET CLOVER A SAFE AND USEFUL PASTURE FOR STOCK

Sweet clover furnishes excellent pasture for horses, cows, sheep, and swine. Formerly, farmers have been much prejudiced against this plant because stock will not usually eat it when first allowed access to it. However, as a knowledge is gained of the advantages that sweet clover has for pasturing, a more favorable attiude replaces this prejudice, writes W. E. Bowers in Hoard's Dairyman.

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Sweet clover, if seeded in the early spring, will furnish grazing in early summer from four to six inches high, and may be grazed the whole season through if not pastured too heavily. It produces the first grazing in early spring of the second year, and it is at this time that stock may easily be taught to like it. There being no other green feed for them, and being anxious for such feed at this time, they will eat the clover very readily, and will gradually, but hastily acquire an appetite for it. After animals become accustomed to eating sweet clover, they ofen prefer it to all other common pasture plants, and usually will thrive on it equally as well as when on other pasture, if not better. However, sweet clover will gradually become woody, and every effort should be made to keep a sufficient number of animals on it to prevent this. If this cannot be done, it is well to keep the plants clipped back in order to stimulate the growth of new shoots. Ordinarily, from fifteen to twenty head of medium sized hogs are able to flourish on an acre of sweet clover, but better growth is obtained when grain is fed in connection with the clover. Sweet clover not only furnishes early grazing, but it grows for a longer period, and late pastruage is secured in the fall long after other pasture plants have ceased to grow. It admirably survives the mid-summer drouths, furnishing good succulent pasturage during the period when no other regular pasture plants are usually growing. It withstands tramping. Frequently, sweet clover is used to supplement other pasture.

In order to obtain best results from pssturing sweet clover, it is advisable to devote two fields to it, one being seeded the year after the other. By this method it is possible to transfer the stock from one field to the other in case the animals are grazing too heavily on one. Also, stock can be taken off the old field at the proper time in order to secure seed for future planting and still have the new field for pasturing. Furthermore, a good yield of nutritious hay can be obtained from the old field if hay it wanted instead of seed, provided the stock are not allowed to pasture too long before making the transfer which should be done about the middle of July.

Sweet clover rarely causes bloat. In this it has a great advantage for pasture over the common green forage crops. Bloating from alfalfa, red clover, and white clove roften causes serious loss, but sweet clover is ordinarily regarded as safe in this respect. This great advantage makes sweet clover especially preferred for pasturing cattle and sheep.

It is the belief of some that sweet clover taints milk and butter when fed to milk cows. However, this accusation is not proved, but on the other hand, according to statements of many growers, sweet clover neither taints milk or butter. An excellent flow of milk is produced from pasturing sweet clover.

The feeding value of sweet clover pasture is about the same as that of alfalfa and red clover. It is very palatable after stock acquires a taste for its bitterness. It does not produce the extreme washy effect which occurs with most other pasture plants.

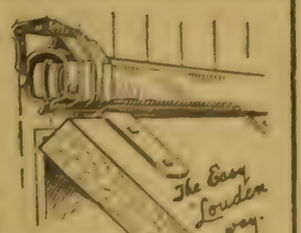
In pasturing hogs on sweet clover, it is well that rings be put in their noses. They are very fond of the roots, and will destroy much of the crop by rooting. This is especially true of the first season's growth. It has been found that a better method to prevent this is to add some protein and ash supplement (such as meat meal) with corn. Enough animals should be kept on pasture to prevent the clover from becoming woody, and to encourage the growing of new shoots.

If desired, pasturing may be done the first season until the middle of August, and then a hay crop obtained when the sweet clover has reached its maximum growth in the fall. The second year's crop can be pastured until July 15, and then the sweet clover allowed to develop a seed crop.

The time that it takes to churn depends largely on the temperature of the cream at the beginning. If the cream is quite warn the butter will come very quickly; if it is too cold. the churning may have to be prolonged sometimes fo rhours before the butter granules will become large enough to free themselves from the buttermilk. Generally a warmer temperature in winter and a cooler in summer will be found best.

Because the cow gives a large quantity of milk does not necessarily follow that it is of poor quality, nor if she gives a small quantity that it is of good quality.

A low-producing dairy cow even of the most perfect type should never be depended upon to produce profitable offspring, for that unproductive taint in the blood will surely appear somewhere down the line.



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From two pens of pure bred White Wyandottes, parent stock from Martin and Beulah Farm strains. Also from one pen of Single Comb Rhode Island Reds, good laying strain, good color. Price $1.25 per 15.

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LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

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Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.
P. R. L. FAIRWEATHER. St. John, N. B.

GOOD WATER SYSTEM ON ESSENTIAL PAST FARM EQUIPMENT

(Continued from page 559)

for the time being, rather than be reckless regarding a matter of so great importance. The principal of permanency, however, should always be kept in view, in making adjustments, and wherever reasonably possible durable structures should be erected rather than temporary affairs.

No one plan can be suggested that will suit all locations and conditions but with the exercise of good judgment and industry no farmer that can make the farm pay at all should long be without a good water system of some sort.

ALFALFA TIPS

(Continued from page 556)

There will be no hay the first year. The second year the alfalfa will be ready for cutting and two crops will be available for the growing season. To get the best quality of hay the cutting must be done when the plants start to blossom, which will be the latter part of June the first time and early in August for the second time. The crop should not be cut late in the season. Alfalfa should not remain exposed in the swarth for any length of time.

The first year the field should be clipped with a mower when the alfalfa and weeds are about six inches high, and the clippings may remain on the field to form a mulch. This will hold the weeds in check. For the alfalfa it is best to have the cutting bar of the mower set so that it will not injure the crown of the plant. It is advisable to clip two or three times during the summer. The last clipping should not be later than August 15, because considerable growth should remain on the field as a winter protection.

It is highly desirable to keep stock from grazing on alfalfa the first year. In fact, alfalfa should not be pastured excessively at any time, and no grazing should be contemplated until the crop is thoroughly established and the plant roots developed. The field should be at its best the third or fourth year after seeding. Pasturing close the first year will have a tendency to injure the alfalfa crowns, and where the stock are allowed to run at will the surface of the field may be roughened by tramping when the soil is wet.

The practicibility of the various ways of getting alfalfa hay into condition for the mow or stack will depend largely upon the locality, local weather conditions and the ultimate value and use of the hay. Just which method should be used is largely a matter of the farmer's individual judgment.

TO RESTORE VIGOR AND STRENGTH TO A FEEBLE PLANT

(Continued from page 560.

Obtain from a garden or field some fertile loam, which has been enriched with animal fertilizers. A dense clay is not so suitable for the purpose as a lighter soil.

Add a tablespoonful of pure bone flour to each quarte of loam, mix thoroughly and let the mixturo stand several days.

Turn the plant top downward, holding it with one hand close to the roots, and strike the edge of the top of the pot on box or table gently until the plant with the entire mass of soil on its roots comes out. Lay the plant down, brush the pot and wash it in boiling water to kill all germs, and then immerse it in clean water till it absorbs all the water it can.

With a skewer or wire nail go all round and above and below the mass of soil on the plant roots, and scratch away an inch, more or less, injuring the roots as little as possible.

Now place in the bottom of the pot some broken pieces of plant pot or charcoal or oyster shell, so that the soil may not clog the hole in the pot and prevent drainage, and above this put an inch of good loam. Place the plant in the centre of the pot. Fill in the space between the mass of soil left on the plant roots and the sides of the pot with loam, making this so firm with the end of a stick that the new loam and old soil on the roots form one mass; fill in above the old soil with loam nearly to the top of the pot.

Submerge the potted plant to the top of the pot in a pail of water for five of ten minutes, then set it where it will have the temperature and light which it requires, shading it for a few days, if it seems to require it, with a single thickness of newspaper laid above it during the day, and keeping the soil moist, but not wet.

When the plant begins to grow, but not till then, stimulate it with liquid fertilizer made of cow of sheep manure and water. Use the pure liquid, not the sediment. Use it the first week the color of rather weak tea, and increase gradually till it is the color of strong coffee.

Apply the fertilizer once a week, in the morning of a sunny day, when the soil in the pot is already moist.

This treatment is good for any plant, especially an old one that has begun to show signs of deteriorating. When it becomes necessary to repot the revived and growing plant again a pot one size larger than the old pot may be used, and the plant repotted in a compost of one part well-rotted cow manure to four parts loam or rotted sod, or one part sheep manure to eight parts loam, to which is added one quart of pure bone meal or flour to each bushel of compst. This compost should be thoroughly mixed at least a week, preferably longer, before it is used.

The treatment outlined is based upon a few facts: A sick plant cannot withstand insect attacks, or the shock of having its roots entirely bared, or a potting compost containing a large percentage of manure that in its feeble state it cannot use. It does require the most favorable conditions as regards temperature, light and moisture.

It is easier to keep weeds from starting than to kill them when once well developed. Harrowing once or twice before planting time kills many weeds and saves much labor later. Weeds take nourishment and pump moisture from the soil, and thus rob the plant.

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Volume 22. SUSSEX, NEW BRUNSWICK, JULY 24, 1917. Number 20.

Progressive Agricultural Legislation in New Brunswick--Enacted at the 1917 Session

The Sheep Protection Act

An Act in Addition to and Amendment of an Act Respecting Protection of Sheep from Dogs, being Chapter 97 of the Consolidated Statutes, 1903.

Passed 22nd June, 1917.

Be it enacted by the Lieutenant-Governor and Legislative Assembly, as follows:

1. The following is added as subsection (1) of section 2 of Chapter 97 of the Consolidated Statutes 1903.

(1) Upon the production of a certificate from a qualified veterinary surgeon that a bitch has been spayed, the amount of tax shall be one dollar.

2. Section 3, sub-sections (1) and (2) of the said Chapter, is hereby repealed, and the following is enacted in lieu thereof:

3. On the presentation of a petition of ratepayers, being householders, to the number of twenty-five, in any municipality, to the Municipal Council, the said Municipal Council shall, by by-law provide that this Chapter shall apply to such municipality from and after the passing of such by-law, and shall be in full force and effect in such municipality.

3. Section 4 of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

4. The assessors of every parish of a county within which the by-law has been duly passed, as provided in the preceding section, shall, at the time of making their annual assessment, enter on the assessment roll, in column prepared for the purpose (Form A), opposite the name of every person assessed, and also opposite the name of every resident inhabitant not otherwise assessed, being the owner, possessor or harborer of any dog or dogs, the number and sex of such dog or dogs by him or her owner or harborer, and the assessors of any parish of a county within which the said by-law has been duly passed shall, in the manner in this section provided, set down the number of bitches and the number of male dogs owned or harbored by each person.

4. Section 5 of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

5. The owner, possessor or harborer of any dog shall, when required by the assessors, deliver to them, in writing, a statement showing the number and sex of the dogs owned or harbored by him, and for every neglect or refusal to do so, and for every false statement made in respect thereof, shall incur a pnalty of five dollars, to be recovered with costs before any Justice of the Peace.

5. Section 8 s,ub-section (1) and (2) of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

8. (1) The money collected under this Chapter in any municipality outside the limits of a city or incorporated town shall constitute a fund for the purpose of satisfying such damages as arise from dogs killing or injuring sheep or lambs in such municipality outside the limits of such city or incorporated town, and the council of such municipality may, when called upon as hereinafter provided, disburse and pay out of such fund, for the purpose of satisfying damages arising as aforesaid, to the extent of such fund; provided, however, no damages shall be paid until the end of the then current year, and should the fund not be sufficient, damages shall be paid pro rate.

(2) The council of any city or incorporated town in any county, the municipal council of which shall have passed the by-law authorized by section 3, shall, on the first day of January, in each year, pay over to the treasurer of such county fifteen per centum of the whole tax collected under the provisions of this Chapter within such city or incorporated town during the year then last past, and the fifteen per centum when so paid shall form part of the said fund in this section above mentioned, and be applied in the same manner and to the like purposes as the portion of such fund assessed and collected in the county outside of such city or town.

6. Sub-section (1) of Section 15 of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

15. (1) The owner of any sheep or lamb killed or injured by any dog shall, where the council of the municipality shall not have passed the by-law authorized by section 3, be entitled to recover the damage occasioned thereby from the owner or keeper of such dog, by an action for damages or by summary proceedings before a justice of the Peace, or information and complaint before such Justice, who is hereby authorized to hear and determine such complaint and proceed thereon in the manner provided by the said Chapter 123 and any Acts in amendment thereof, in respect to proceedings hterein mentioned, and such aggrieved party shall be entitled so to recover in such action or proceedings, whether the owner or keeper of such dog knew or did not know that it was vicious or accustomed to worry sheep.

7. Section 18 of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

18. The owner of any sheep or lamb killed or injured by any dog in any municipality in which a by-law under section 3 is in force may, within thirty days, apply to the council of the municipality in which such sheep or lamb was so injured, or any committee thereof appointed for such purpose, for compensation for the injury, and if the council or committee (any number of which shall be competent to administer an oath or oaths) on examining the parties in the premises, is satisfied that the aggrieved party has suffered damage, they sholl awrad to the aggrieved party for compensation a sum not exceeding two-thirds of the amount of the damage sustained by him.

8. Section 19 of the said Chapter is hereby repealed and the following is enacted in lieu thereof:

19. After the owner of any sheep or lamb has received from the municipality damage for the loss of or injury to any such sheep or lamb, under the preceding section, his claim shall thenceforth belong to such municipality, and it may enforce the same against the offending party by any means or form of proceeding that the aggrieved party might have been entitled to take for that purpose, in the name of the aggrieved party or in the name of the County Treasurer of such municipality.

9. Chapter 20 of 7 Edward VII, is hereby repealed.

A War-Time Measure

An Act to enable the Cities, Towns and Municipalities of the Province to borrow money for the purpose of purchasing food and other necessaries for the purpose of assisting the inhabitants of any such city, town or other municipality in supplying themselves with such articles during the continuance of the war now being carried on between Great Britain and her Allies, and the German Empire and its Allies.

Passed 22nd June, 1917.

WHEREAS, the cost of living has rapidly advanced and is still advancing and is likely to entail upon certain people of the Province great hardships.

AND WHEREAS, it is deemed advisable to enable the various cities, towns and other municipalities in the Province to borrow money to purchase food, fuel and other necessaries and re-sell the same to the inhabitants of such cities, towns and other municipalities without profit.

Be it therefore enacted by the Lieutenant-Governor and Legislative Assembly as follows,—

1. It shall be lawful for any city, town or other municipality in the Province to borrow money and issue debentures therefor to an amount not exceeding twenty-five thousand dollars to be used and applied for the purpose of purchasing to the best possible advantage, and at the lowest cost at which the same may be obtainable, such food, fuel and other necessaries; provided however, that the City of Saint John is hereby authorized to issue debentures in accordance with the provisions of this Act to an amount not exceeding fifty thousand dollars.

2. The City, Town or Municipal Council of any city, town or other municipality may by resolution at any meeting thereof declare its intention to take advantage of the Provisions of this Act, and at such or any subsequent meeting or meetings from time to time, fix the amount that the city, town or other municipality may borrow hereunder, and make all necessary rules and regulations and appoint all persons necessary for carrying the same into effect.

3. Any debentures issued under this Act shall be issued in the manner and form prescribed by Chapter 6 1 George V, (1911) and shall bear interest at a rate not exceeding five per centum per annum payable semi-annually to the holder of the coupon at the office of the City or Town Clerk or at the office of the Secretary-Treasurer of any Municipality, as the case may be, and said debentures shall be redeemable at such time or times and at such place as the city, town or other municipality issuing the same may be resolution of its Council provide.

4. All moneys realized from the sale of any debentures under this Act, shall be deposited in the name of the city, town or other municipality borrowing the same in some chartered Bank in such city, town or other municipality and in case there be no Chartered Bank in such city, town or other municipality, then in a chartered Bank most convenient to such city, town or municipality, therein to be kept at interest until required for the purchasing food and other necessaries authorized by this Act, for tho payment of the interest coupons on the debentures issued hereunder, and for the payment of any charges and expenses arising out of the carrying into effect the purposes of this Act; and all moneys received from any sales of food or other necessaries shall be deposited in a like manner, and shall remain so on deposit until required for the purposes of this Act, and on this Act ceasing to operate as hereinafter in the next succeeding section provided during the continuonce of the same, and all moneys so on deposit or in the possession of any such city, town or other municipality, and all money due and owing any such

city, town or other municipality for food or necessaries sold under this Act, when collected, as well as moneys received under sales made under the next succeeding section, shall be used and applied by each city, town or municipality in the redemption of any debentures and interest thereon issued under this Act.

5. This Act shall continue in force and operation until peace is declared in the said war, unless the operation shall be extended by Order-in-Council published in the "Royal Gazette" for a further period to all or any of the cities, towns or other municipalities who may have issued debentures under the provisions thereof. Provided, however, that any municipality may, after the operation of the Act has ceased, dispose of any food or necessaries then on hand and conclude and wind up any business or transaction connected with the sale or purchase of all food or necessaries under the provisions of this Act.

6. This Act may be cited as "The Act relating to the high cost of living."

An Act to Facilitate the Drainage of Farm Lands.

Passed 22nd June, 1917.

Be it enacted by the Lieutenant-Governor and Legislative Assembly, as follows:—

1. Whenever it shall be necessary, for the proper drainage of any farm land, that a ditch or drain should be run through the property of any adjacent owner or owners, the owner of the land requiring or to be benefitted by such drainage may apply to the Municipal Council of the County within which such land or within which the larger part thereof, is situate, for permission to construct such ditch or drain.

2. The said Municipal Council shall thereupon appoint a competent civil engineer or land surveyor to investigate the need for such drainage and estimate the cost of the same, the damage which will be done to the lands through which such ditch or drain may be run, the value of such drainage to the land to be served by such ditch or drain, and the amount which, in his judgment, should be assessed upon each property which will receive benefit from such drainage. Such engineer or surveyor shall, before making such report, notify each owner of land to be affected by such drainage, of the proposed ditch or drain, and shall endeavor, so far as possible, to have the same the parties interested. In case he should fail to obtain such agreement, the Council upon consideration of such report, may make such order as it shall deem expedient, which shall be binding upon all parties interested.

3. If the applicants for drainage shall deposit with the County Treasurer an amount of money sufficient to cover all damages to be caused to adjacent lands by the construction of the ditch or drain for which he applied, as estimated by the said enyineer or surveyor, toyether with the expense of investigating and the said report, the Council may grant him permission to construct such ditch or drain, and shall pay out the sum so deposited to the persons entitled thereto according to the said report.

4. In case any of the persons entitled to land through which any such ditch or drain is proposed to be constructed shall be an infant, lunatic or non-resident of the Province, any judge of the Supreme or County Court may, on the application of the person desiring the construction of such ditch or drain, make such order for the service of such person or the protection of his interests as he may judge to be fair and reasonable.

TALK ON FEEDS; THEIR FUNCTIONS IN ANIMAL LIFE

Millions of tons of feeds are fed to domestic animals every year and the value of these feeds run into billions of dollars. In taking up a discussion of feeding we should first consider the use to which these feeds are put by the animals.

First and formost feed is utilized by the animal to maintain its life. Several operations are going on at all times in the animal body requiring energy that must be supplied in the form of feed. These are:

(1) Respiration or the act of breathing, caused by the alternative contraction and expansion of the diaphragm and chest walls.

(2) Circulation, caused by the pumping action of the heart.

(3) Digestion, caused by the secretion of digestive fluids and the spasmodic contraction of the intestines to move their contents along. Chewing and swallowing the food requires energy and are the start of the digestive process.

(4) The natural body movements of the animal and the repair of tissue broken down in these activities.

Second, food is sometimes required to keep the animal warm. In ordinary weather sufficient heat is produced by the body activities mentioned above to keep the animal warm, but in severe weather or when the animal is unduly exposd, additional heat must be supplied by the oxidation of foods. This might very properly be listed under the first point, as it is necessary to the maintenance of life, but when animals are properly cared for, little food is used in this way and hence it may be listed separately.

Third, growth in young animals requires a great amount of feed particularly adapted to the needs of the growing animal.

Fourth, the development and nourishment of the young, before and after birth requires feed that must be supplied to the mother and transformed by her so that it can be utilized by the young.

Fifth, production of any kind requires feed. In draft animals feed must be supplied to be transformed into energy by the animal body. In milk production feed is taken into the body and transformed into a product available for human use. This is, of course, closely associated with the maternal function, mentioned in point four, but the fact that cows are bred with milk production very highly developed makes this factor in the use of food other than nourishing the offspring. In sheep, feed must be given for the proper development of wool.

Sixth, the production of fat requires food as every feeder knows in these days of high-priced feeds. While the laying on of fat is of primary importance in meat animals, it may be considered last, as this function is taken care of in the animal body after all of the other factors mentioned above are fully covered. It is only nature's way of storing energy against a day of need. The animal body stores food in excess of immediate requirements in the form of fat that may be drawn on later.

Every one, of course, understands that food is needed sufficient to cover these factors in the animal's requirements, and it will be seen that these points are closely related. However, when we consider actual practice, we wonder if all owners of brood sows, for instance, understand the additional food requirements to produce normal litters of pigs. The brood sow may be kicked about the farm to pick up her living as best she can from the time of weaning one litter until the next is due. Again, the cows milked on some farms are expected to return a good supply of milk from a very limited ration. The hat-rack horse is but another example of an animal given insufficient feed to care for vital bodily needs and the work he is expected to do. He is treated too much like Pat's horse that he tried to break of the expensive habit of eating, just when he became accustomed to go without food, he "up and died."

C. H. CLINK.

QUACK GRASS IS BECOMING A GREAT NUISANCE

Quack grass is one of the very worst weeds with which the farmer has to deal. There are comparatively few farms anywhere in Ontario or Quebec where it is not known as a desperately hard plant to keep under control. As one travels over lines of railways or other means of transportation this weed is seen on almost every hand; in meadows, in grain fields, on pasture lands, by the road sides, in wood lots, slashings, lanes, yards and lawns, in short everywhere. While there are no statistics showing the actual loss to the country and the farmers by the ravages of this weed, yet it is apparent to the most casual observer that it must be very great. Where this plant gets possession of the land it almost completely crowds out any cereal crop and greatly lessens any other that is cultivated where it is allowed to remain.

The reason for its common appearance, no doubt, is the fact that it is so difficult of eradication. In addition to this fact, however, it is a most insinuating weed and one is not likely to know anything about its intrusion until it has gotten a strong foohold and bids defiance to all who are opposed to its complete mastery of the soil where it locates.

Notwithstanding the determination of this usurper to maintain its hold upon the land, however, where it has taken possession, it is yet not beyond the reach of a careful and persistent farmer, who by one means or another can overcome and drive it off his premises.

This plant belongs to that class of weeds called by some "seeding and sprouting perennials." This is by far the most difficult class of plants to eradicate. The jointed runners will not only send up new plants while they are attached to the parent stalk, but if cut or broken and carried about, the pieces will grow, forming new centres of distribution. These runners have great vitality. They may often become dried and lie dormant for a long time; then, like a seed, when the proper conditions are presented, spring into life. Thus it will be readily understood how ordinary cultivation is a means of spreading rather than destroying such plants.

The general treatment for this class of pest is to put the land into some hoed crop, where practicable and by constant cutting off at the surface of the ground, smother it out by not allowing sufficient leaf growth to gather the necessary food from the air.

Summer fallowing will accomplish the same result if thoroughly and properly done, not a llowing the plants to make an appreciable growth at any time and using certain tools that will shave the whole surface cutting off everything. When the weather is dry and hot the ground may be plowed as soon as the crop is off, with the same result, by keeping all growth under until vegetation ceases and then fallow with shallow plowing. This followed by a corn crop the next season should clean a field of quack thoroughly if the work is well done.

One of the best methods is to plow shallow late in the fall and again in the spring, but deep, in preparation for a corn or other hoed crop. The writer cleaned very thoroughly a piece of land this way, while others again claim that the spring plowing should be shallow. In conversation recently with a gentleman connected with a Government farm, he stated that he knew of a case where great benefit had been derived by plowing the land the ordinary depth twice in the one season; once in the summer and again in the autumn with cultivation between the intervals.

From the experience of diffrent nn it may be gathered that any two plowings either shallow or deep in the second operation, where all growth is kept down in the mean time, is particularly destructive to this persistent plant.

While the whole weed problem is a serious one and the revenue of the country is greatly reduced by the presence of these intruders it is safe to affirm that no energetic man need fear to go on the land for fear of being over-run by these pests; for by the adoption of a proper rotation and a careful consideration of the peculiarities of growth together with common sense methods of cultivation the most persistent weeds can be kept under control without great expense or serious interference with the regular farm practice.

PLUGGING THE LEAKS PUTS DAIRY FARMING ON PROFITABLE BASIS

I have always been an advocate of a system of farm accounting that would leave no doubt as to whether I was making an actual net profit on investment. It was evident that any manufacturer would pursue such a course, and his remaining in the business would depend on the result. Holding as I do that any farmer who keeps live stock is a manufacturer of milk and meat products, I was convinced that he should follow somewhat the same system as his brother who turns out grain-binders or sewing machines.

Accordingly, I decided on an analytical accounting of my stock-in-trade. Due allowance was made for the initial cost of calves, etc., of housing, labor, interest insurance, and a score of miscellaneous expenses. The complete list was quite a formidable one, and proved most illuminating. It showed me that a herd of first-class dairy cows had really to go some if they paid the bills and broke even. As for the steer and the hog, it showed me that from birth to block no combination of food stuffs could be fed to them without saying good-bye to a fair margin of profit that these same grains might have brought if sold directly for cash. What was the use of all this extra burden and responsibility? Why not, I thought, simplify matters by selling the crops for cash, and take it easy?

I used to get some satisfaction when addressing farmers' institute meetings in dragging out my "financial problem" by way of a caution to some "back to the land" enthusiast, who thought he was going to get rich at the ancient and honorable occupation of farming. On one such occasion, a farmer in the audience offered this suggestion as a possible remedy: "Do you," he said, "credit your animals with everything that is due them? There may be a hidden profit." At the time I was not particularly impressed, but every now and then the idea came wandering back to me and persisted in getting some consideration. After turning the matter over in my mind, I finally reached the definite conclusion that there was not only one hidden profit, but several. We had been crediting the stock with only the direct profits while there were a number of indirect ones that certainly merited attention. For instance, there was the manure. Of course, it had not been forgotten altogether. We had lightly jotted it down at $1.00 a ton, and let it go at that. But the chemist said that it conained fertilizing elements that had an average commercial value of at least, $3.00 a ton. Even then they took no account of the humus content and its beneficial effect on the physical condition of the soil. Its

real virtue can better be realized when, after several years there is observed a decided increase in crop production. Such development means an added income which should be credited to the live stock on the farm.

Solution for Fertility Problem

Then, live stock conserves fertility by affording a home market for those crops best adapted to soil improvement. Grain growing as the sole revenue producer will impoverish the land as many farmers of the old school discovered to their cost. Live stock encourages the growing of clover—a fetrilizer in itself; corn and roots which mean an economical cleaning of the land by inter-cultivation at regular periods; and cereals to furnish straw and to seed down with, while growing a crop. Thus it will be seen that stock farming demands a type of crop rotation that is best for the land, for the animals kept, and for the farmer himself in the labor-saving methods of marketing all the crops. Hence, another hidden profit should be checked up in favor of the stock.

Again, did you ever notice how each class of stock fits into its own peculiar niche in utilizing the various waste products about the farm? If the corn fails to ripen there is no market for it, but the hog will turn the ears into ten-dollar pork. Stacks of straw that the western grain farmer burns become an asset on a stock farm by being turned into feed and bedding, thus getting back into the soil to replace the plant food it had previously extracted. A flock of sheep will turn a weedy farm into a clean one, thereby enhancing its cash value. Poultry converts grass, scattered grains and insects into meat and eggs, while the hogs and calves made their greatest gains on skim-milk, buttermilk or whey—the by-products of the dairy.

The Factor of Stability

The efficiency expert of modern business finds his chief usefulness in plugging the leaks. It is just there that the live stock farmer secures another of his hidden profits. Live stock fed on the farm for production of milk, butter, cheese, meat, eggs, etc., has stability as a business proposition that makes it most desirable. The growing of grain crops as a money-making occupation means a pretty constant gamble with the weather conditions and markets. Then, too, the mining of the soil must sooner or later lead to its depletion. It is simply a case of robbing Peter to pay Paul and is frequently the first step to the poorhouse. On the other hand, by having the crops swing around the live stock as a central pivot, it will be found that those which best feed the stock are also the soil builders. It is like putting the money in the bank and drawing interest on it for the proverbial rainy day. This existence of a proper balance giving stability to the business, is a hidden profit that must in all fairness be attributed to the live stock.

I believe that there are few who have experience in handling live stock but will admit that the work is broadening in its effect upon the farmer itself. The interest it creates demands study which in turn is educative. There are problems in plenty to be worked out, the solution of which stand for greater progress, a larger bank balance, and by no means least, a deeper love for one's vacation. Should not such a result be tabulat-McKenney in O. V. J.

TO PROPERLY CAN STRAWBERRY FRUIT

Of all the products easy to can, strawberries are perhaps the hardest. Although keeping perfectly, they are so frequently tasteless and unattractive that many housekeepers do not attempt to can them. Properly canned, however, they make a beautiful product. Freshly picked, sound berries should be washed, hulled and packed carefully in the jars. Strawberries need a good syrup to secure the best flavor; one and half quarts of sugar to one quart of water boiled to medium thick is about right. This should be added until the jars are full, rubbers and tops should be put lightly in position, and the jars sterilized in a hot-water canner for eight minutes, after which they should be removed and the tops tightened.

Best results are secured when strawberries are sterilized at a temperature of not more than 212 degrees—boiling temperature. Sixteen ounces of berries and seven ounces of syrup will about fill a pint can. Some housekeepers secure good results by pouring hot syrup over the berries and allowing them to stand a few minutes in a covered dish before packing in the jars. This gives a fuller pack and removes much of the objectionable shrinkage in the fruit. Strawberries should not be canned in tin unless the cans are lacquered.

Strawberry sun preserves are made by using equal weights of strawberries and sugar, boiling slowly in a preserving kettle for ten minutes, skimming frequently, and then placing in glass-covered platters in the sun for three or four days. The berries may then be packed in wide mouthed bottles and sealed with paraffin, if fruit jars are not available.

An exceptionally fine product may be made as follows: For each two boxes of berries make a syrup of two pounds of sugar and half a pint of water. Let the syrup boil until it reaches a temperature of 265 degrees. Add the berries and allow to boil very slowly in an uncovered kettle until the temperature has again mounted to 220 degrees. Remove from the fire, cover and allow to stand overnight. In the morning fill the jars or bottles with the berry meat, place in a canner filled with cold water, and bring to a boil. Remove the jars or bottles, seal the jars, or cork the bottles, and dip them in paraffin. The result will be a solid pack of whole preserved strawberry meat.

A delicious strawberry jelly may be made of the remaining fruit juice by adding sufficient sour apple juice so that a spoonful of juice combined with a spoonful of alcohol will form a gelatinous substance. Apple pectin may be used if it is available. Boil the juice until two drops will form on the edge of a spoon held sidewise, and pour at once into sterilized jelly glasses, tumblers or other containers. Cover with paraffin. Rapid cooling is essential for good color in jelly.

Sixteen boxes of berries and eleven pounds of sugar will make about eight pints of whole strawberry preserves and fourteen glasses of jelly.

Strawberry jelly cannot usually be made without the addition of some other fruit juice, although early berries may sometimes be made into a fair jelly by reducing the amount of sugar and boiling the product somewhat beyond the usual jelly-making stage.

A scant teaspoonful of tartaric acid to half a pint of juice will aid. Equal amounts of orange pectin juice and strawberry juice make a very good jelly. Two parts of kumquat juice to one part of strawberry juice make an out-of-the-ordinary jelly. Currants and strawberries may also be combined to advantage in jelly making.

Kinds of Syrup

1. Thin syrup is sugar and water boiled sufficiently to dissolve all sugar, but is not sticky.

2. Medium-thin syrup is that which has begun to thicken and becomes sticky when cooled on the finger tip or spoon.

3. Medium-thick syrup is that which has thickened enough to roll or pile up over the edge of a spoon when you try to pour it out.

4. Thick syrup is that which has become so thick that it is difficult to pour.

THE MAINTENANCE OF ORGANIC MATTER IN FARM SOILS

It is a recognized fact that as a rule a soil is productive in proportion to the amount of humus or vegetable matter which it contains. It is of the utmost importance therefore that all lands kept for the purpose of crop production should be liberally supplied with this necessary material.

The original source of humus or organic matter came from the leaves of trees and decay of plants that will grow upon the least possible supply of this element in the soil and by slow accumulations during the centuries has gradually increased the fertility of most lands until to-day they have enough humus to grow profitable crops. However, where this is lacking an effort should be made at once to supply the deficiency, which can be accomplished by the adoption of a judicious system of farming.

Lands continuously cultivated gradually diminish in productive capacity. The growth of any kind of vegetation takes up a certain amount of various mineral elements from the soil. The discovery of this fact and the additional one that these several substances are necessary elements of plant food, naturally led to the conclusion that the loss in productive capacity must be due to the diminished supply of mineral plant food, and that any successful effort to maintain or increase the fertility of a soil must lie in the direction of replacing these elements by artificial means.

It is the gravest error, however, to consider that the fertility of a soil depends upon its supply of mineral plant food; neither is it any more correct to consider the supply of soluble mineral plant food in any soil as a definite amount, like so much horse feed in a barrel, to be drawn upon until exhausted, with no power in the barrel to renew the supply. All soils have their origin in the rock masses of the earth and what has been developed from a given material may continue to be developed therefrom under like conditions; under improved conditions the rate of its development may be accelerated. If there were no means of replacing these elements from the foundation soil the estimates that have so commonly been made as to the number of years a given soil might be expected to produce a certain crop, based upon the amount of plant food in the soil as shown by chemical analysis, and the quantity taken up by an average growth of this crop, would be entirely erroneous.

This method of calculation takes no account of leaching, which in humid or semi-humid climates is very great, there being leached out of an average soil by the percolating waters from five to seven pounds of plant food for every pound taken up by the crop.

It is also a decided error to refer to the sale of so many pounds of plant food contained in grain, as the only or even the greatest evil resulting from the continued production of grain crops and their sale from the land. Even if the whole crop were returned to the soil, there would be replaced only 15 to 20 per cent. of the mineral plant food that has been given up by the soil during the production of that crop.

As the rock fragments are decomposed and dissolved a part is taken up by the plants, and, as we see, a much larger part is carried away by the percolating waters to the sea, to be again laid down, to go through the process of rock formation and perhaps at some future day to repeat the process now going on.

It may still be asked, what causes the reduction in fertility, if not the reduction of soluble plant food?

The answer is, a lessening of that element in the soil which not only affects, but very largely controls all the factors of fertility heretofore discussed, namely humus.

Since the maintenance of humus is such an important matter, let us look for a little at the sources from which the supply comes, and from which it must be maintained. Originally, as we have seen, the supply was from a few primitive weeds, and the leaves of trees decaying on the ground. Since the latter, at least, is no longer available we must look to other sources of supply. These are chiefly from three sources, namely, farmyard manures, the pasturing of stock on land, and the growing and plowing down of leguminous crops.

It is estimated that about forty per cent. of the organic matter that is fed to animals is returned in the manure. This, of course, includes all the bedding which should, at least, be sufficient to absorb the liquids of the manure pile. Heiden found that 47 per cent. of the dry matter fed to a horse was recovered. A full grown steer returned 56 per cent. of the dry matter of the feed.

R. E. Denel fed 46 cows for one week and weighed and analyzed feed, bedding and manure. The cows had been on the same ration for some time previous to the test. He found 45 per cent. of the dry matter and 43 per cent. of the organic matter of the feed eaten was recovered in the manure.

Young animals, lean animals, or, those that are producing milk or work, digest their food closely. From the limited information available, it appears as if one might count on a return of about one-half of the organic matter of the food, but with usual methods of handling probably not over one-fourth to one-third reaches the field.

The practise of pasturing down crops is a method of saving labor as well as increasing and maintaining the supply of humus and in a general way of adding fertility to the soil. This method is particularly useful with hogs and sheep where food is given them in addition to that obtained on the field, causing an additional supply of plant food and resulting in the filling of the soil with a dense mass of roots and close sod which, when decayed leaves a great amount of humus in the land. The same thing may be sai dof horses and cattle but with the difficulty that their voidings are not so evenly distributed as is the case with pigs and sheep.

Green manuring, or the ploughing under of some growing crop such as red clover on buckwheat, in the past, for improving the supply of organic matter in the soil; but unless on very low priced land the practise is of doubtful utility. We are usually deceived as to the amount of material that this adds to the soil. It takes an extra good soil to grow two tons of dry matter per acre; more frequently one-half ton is secured. Three tons of farm manure usually give over a ton of dry matter and after being properly spead are worth, probably more than a ton of dry in green manure. One objection to green manure is that where the soil is most in need of organic matter, the least quantity grows. The parts of the field that are richest get the heaviest application, just the reverse of what is desired. The same objection applies to farms as a whole. Those that are in the greatest need of organic matter cannot grow much of a crop of green manure. A manure spreader will apply the material evenly and at the same time give a heavier application, if desired, to the poorer parts of the field.

There are conditions, however, where a catch crop can be grown at very little extra cost; frequently for not more than the price of the seed. When this can be done it will be good business to do so, particularly if the land is greatly in need of humus.

It is very doubtful economy to spend a year raising a crop for the sole purpose of plowing it under. Such a practice may pay if no other plan is available, where organic mat-

ter is badly needed; but usually it pays better to pasture down the green manure crop, or harvest and feed it and return the manure. If pastured off in the field, all the roots and considerable of the tops are left where they grow, and 40-50 per cent. of the material that is eaten is returned to the land. There are some cases in which it is best to plow under a green manure crop, because it does not pay to keep animals to eat it, or because they might do injury as in an orchard; but, in general, it is best to either harvest, or pasture down the crop after it is gown. Hay is usually too valuable a material to use as manure.

In working out any plan for the maintenance of organic matter in the soil, it is well to always have in mind the fact that any kind of plant decaying and going back into the soil is a source of humus whether it be in the form of grass, weeds, manure, or from whatever source it comes.

KEEP THE POTATOES GREEN AND GROWING

Many are growing potatoes in Canada this year, for the first time and, as a result of the greatly increased number of growers the cop will probably be increased. But to insure a good crop there must be an abundance of moisture in the soil and the tops must be protected from insects and disease.

Cultivation—The soil should be kept cultivated with the cultivator or hoe until the tops meet sufficiently to shade he ground. As most of the tubers develop in the three or four inches of soil nearest the surface, and as the tubers will not develop well in dry soil, quite shallow cultivation is desirable at this season of the year. In soil which is dry there may be good development of tops but there will be few tubers. The roots in such cases have gone down deep into the soil to obtain moisture but the tuber-bearing stems, which are quite different from the root system, do not develop well. Where the soil is a loose, sandy loam, hilling is not necessary and may be injurious, as the soil dries out more than if left on the level. In heavy soils it is desirable to hill the potatoes as it will loosen the soil and the tubers will be shapelier than when the ground is left level. When there is sufficient rainfall and moisture in the soil hilling is likely to give best results in all kinds of soil, as the soil will be looser and the tubers can push through it readily. As a great development of tubers takes place during the cooler and usually moister weather of the latter part of summer, it is very important to keep the plants growing well until then. In one experiment it was shown that during the month of September there was an increase of 119 bushels of potatoes per acre.

Protection of Potato Tops From Insects.—It is very important to prevent the tops of potatoes from being eaten by insects, particularly by the Colorado Potato Beetle. The old "bugs" do not do much harm to the foliage, as a rule, and usually the plants are not sprayed to destroy these, although the fewer there are to lay eggs the less difficulty there will be in destroying the young ones. These begin to eat rapidly soon after hatching, and close watch should be kept so that the vines may be sprayed before much harm is done. Paris green kills more rapidly than arsenate of lead but does not adhere so well, and in rainy weather it is desirable to have something that will stay on the leaves so that they will be protected until it stops raining and thus prevent the tops being eaten. At the Central Experimental Farm a mixture of Paris green and arsenate of lead is used in the proportion of 8 ounces Paris green, 1½ pounds paste arsenate of lead (or 12 ounces dry arsenate of lead) to 40 gallons of water in order to get the advantage of both poisons. It may be that it is not convenient to get both poisons when either 12 ounces of Paris green or 3 pounds paste arsenate of lead (or 1½ pounds dry arsenate of lead) to 40 gallons water could be used, or in smaller quantities, say 1 ounce Paris green to 3 gallons or 3½ ounces paste arsenate of lead or half that quantity of dry to 3 gallons of water. An experiment conducted for six years at the Ontario Agricultural College, Guelph, showed that, on the average, where the tops were sprayed to kill "bugs", the yield was 186.9 bushels per acre, while when the tops were not sprayed and allowed to be eaten, the yield was only 98.2 bushels per acre. It is desirable not to stop with one spraying which usually does not kill all the bugs, but to spray several times, if necessary, so that as little foliage as possible be eaten.

Protection of the Potato Plants From Late Blight and Rot.—In some years the crop of potatoes is much lessened by the late Blight disease and when rot follows little of the crop may be left. It is, therefore, very desirable to prevent this disease from spreading. This is done by keeping the plants covered with Bordeaux mixture from about the first week of July, or before there is any sign of the disease, until September. Sometimes the first application of Bordeaux mixture is made before the potato beetles are all killed when the poison for them may be mixed with the Bordeaux. While the disease is not very bad every year it is well to be prepared. There was an average increase per year of 94 bushels of potatoes from spraying with Bordeaux mixture in three years.

The formula for Bordeaux mixture for potatoes is 6 pounds copper sulphate or bluestone, 4 pounds freshly slaked lime to 40 gallons of water. While the bluestone will dissolve more quickly in hot water; if it is not convenient to get this, it may be suspended over night in a cotton bag in a wooden or earthen vessel containing four or five or more gallons of water. The lime should be slaked in another vessel and before mixing with the copper sulphate solution should be strained through coarse sacking or a fine sieve. The copper sulphate solution is now put into a barrel, if it has not already been dissolved in one, and enough water added to half fill the barrel; the slaked lime should be diluted in another barrel with eonugh water to make half a barrel of the lime mixture. Now pour the diluted lime mixture into the diluted copper sulphate solution and stir thoroughly, when it is ready for use. The concentrated lime mixture should not be mixed with the concentrated copper sulphate solution, as, if this is done, an inferior mixture will result. If the barrels are kept covered so that there is no evaporation, stock solutions of the concentrated materials may be kept in separate barrels throughout the season. It is important to have the quantities of lime and copper sulphate as recommended, but, in order to be sure that enough lime has been used and there is no danger of burning the foliage, let a drop of ferrocyanide of potassium solution (which can be obtained from a druggist) fall into the mixture when ready. If the latter turns reddish-brown, add more lime mixture until no change of colour takes place.

HOW TO DRENCH SHEEP

Many people do not know how to drench sheep. Some roll a ewe on to her rump and pour the medicine down her so that it goes down, not only to her stomach but also into the lungs, choking her and causing a waste of the medicine. The best way is to take a two ounce syringe and place it in the back corner of the mouth. Be sure that it is above the tongue, and while you empty it hold the mouth closed. The liquid gathers in the mouth, and since it cannot run out it must be swallowed. If the ewe does not stand, back her into a corner and she will probably take the treatment very gracefully.

Often it is convenient to use a small necked bottle. A small sized olive bottle is very handy in this respect. In drenching lambs with gasoline for stomach worms, the gasoline can be mixed with milk and fed from the bottle very nicely. Usually the use of a bottle takes longer and is not nearly so easy, for if you have many to do you will lose your patience.

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JULY 24, 1917.

DATES OF ISSUE

July	10-24
August	7-28
September	11-25
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CONFIDENCE IN BUSINESS IS A USEFUL TRAIT

In any business or profession confidence is a very useful acquisition to have regardless of whatever toher instruments one may possess as stock in trade for working out the various problems with which he is connected. A man that does not believe in his own ability and lacks confidence in it to "do things" is not likely to go very far afield in pursuit of his calling. There is not much in life's activities for such a one but to follow in the footsteps of other men and still further deepen the rut that has already grown too deep.

In order to succeed one must get a vision of his own and go out of the beaten path, if needs be, in order to work out the various problems connected with the solution of his enterprise.

Of course confidence must not be confused with conceit, with which there is nothing in common. The former is ever open to re-adjustment, to profit by the experience of others and to apply any known methods or deductions to one's own immediate needs in order to further the interests of his undertakings; while the latter is narrowed and dwarfed by the thought that he is a sufficiency unto himself and needs the help of no man to work out his problems; therefore by vain-glorious and foolish notions he stands in his own light and so closes all the avenues to success by refusing the very help that he needs because of his self sufficiency.

A conceited person is one of the most stupendous monstrosities in existence. Humility becometh all men. "No man liveth unto himself," said a wise teacher and he who knows it all, has no place in a democratic world.

It is only by getting outside of one's-self and using the brains and energies of other men as well as one's own that real success can be attained. It is not possible for any man to know any great part of the wonderful world in which he lives and the most that he does know or is able to glean is principally what the other man who has preceded him has found out. So must it ever be. "Line upon line," and "Precept upon precept," "Here a little and there a little" is the best way any one can hope to acquire of the vast world about him, and of that little the most of it from the experiences of other men.

While the young man then should practise self-reliance and have confidence in himself, in order to succeed he must be humble and willing to learn from any and all sources of information with which he comes in contact.

To make this matter practical the young farmer should not always grind away on the farm. He must get out into the world and see what others are doing. The way that his fathers trod may have been a goodly road for them, indeed the best road, but nevertheless it may not be a wise one for the son. The world is ever changing, and particularly during the last generation has it been changing very rapidly. The practices and methods most useful a generation ago are not the best for the present age; and so we must keep pace with the times in which we live. The whole truth in relation to agriculture has never been known; but we are getting a little nearer as the years go by. One farmer may have advanced along a certain line further than another while their positions may be reversed in something else. The way to get and to keep in the fore-front of the best up-to-date farm practice, is to get into personal touch with the leaders of the day and give one another a friendly life when the opportunity or need arises. With this end in view an occasional visit to one another's farms is good practice, where matters of general interest may be discussed, and notes on common farm practices and methods compared.

In a case of a young man beginning business or as a preparation for business a few months or a year or even more away from the home farm with some leader in the line in which he is most interested, or even with two or three such men, where he would have an opportunity to study their methods and so reinforce himself with the best available information would be on the subject of his deepest interest, time well spent. Then with the aid of the best and the latest teaching on the practical and scientific phases of agriculture kept before the public by the Farm press he should be in a thoroughly good position to launch out into his life's work with a good prospect of success if in addition to his experience gleaned in the way suggested he is able to bring to bear reasonable ability, good judgmnt, energy and severance.

THE OLD WAYS OF OLDEN DAYS MUST PASS AWAY

In connection with the present food scarcity, it is well to understand that there is no scarcity of land to raise the food on.

Scarcity of farm help is the great trouble, and is hard to remedy. Greater efficiency is the answer to the problem. There are scores of ways of applying it. The man unit has got to do more work; not necessarily work harder, but he must accomplish more, raise more bushels and pounds of farm produce. How is he going to do this?

On clean land, under ordinary conditions, it is a foolish waste of time, for one man to follow one plow bottom day after day, to the tune of one-and-one-half acres per day, and there are hundreds of thousands of farms in this country where this is the rule. Just think of it: One man spending a whole week to plow ten acres of land when he can by modern methods, with horse power, and two bottoms, plow the same in three days, or better still with the tractor, plow the whole ten acres in one day, by using a night shift. The trouble we are so used to the old methods, we think we must continue to follow them, and we need a jolt to wake us up. The jolt is here!

Poor crops are often the result of improper, or insufficient tillage, this is impossible where so much time is killed by not working to advantage, if we are so long plowing a field that the planting season is right on our heels, we do not roll and harrow thorough enough to obtain a proper seed bed, and we grow a poor crop, and lessen the production on the farm to just that degree. But the interest on the land coninues on just the same, and taxes are none the less; it is a dead loss. And this condition is an unalterable one; that it takes every bushel or pound of a crop up to a certain yield, to pay expenses, and there is absolutely no profit until that limit is passed, and every bushel or pound raised above that limit is all velvet, or nearly so, less the cost of harvesting and marketing at least.

This is a fact that is too seldom taken into consideration by the average farmer. We are too apt to associate efficiency with getting up early in the morning, and going to it until dark, day in and day out. You have all heard about the boy who had often heard his father say that it was "Half in Calculating," who was sent out with the team to work in the morning, and when about noon the father went out to the field to see how the work was progressing, found the team hitched to the fence and the boy perched on the fence, and when asked for an explanation repeated his father's proverb, and reported he was half done, having spent the entire forenoon calculating. I sometimes think the boy had the principle all right, maybe he applied it too literally; we do not figure enough.

Yes, each man unit has got to accomplish more results, and it is up to every farmer to devise ways and means for accomplishing this result.

* * *

Silage is succulent, palatable, and bulky, and has a good effect on the digestive system.

Buckwheat is a late-sown crop that deserves better attention than it receives.

The silo provides a means of keeping over, for summer use, feed of high quality.

One plows, another sows, who will reap no one knows.

* * *

Farm and Home published in Springfield, Mass., says in regard to the Red Cross Society:—"It is the one agency which will be father, mother, doctor and friend in need to every boy at the front or elsewhere in service. It will be America's aid to our Allies and to war sufferers in all lands."

* * *

Our farmers are not slackers; they are ready to serve in army or navy, in munition factory or ship yard, or on the farm in food production. They will go gladly wherever their country most needs them. Any of these places is equally honorable, brave, serviceable and patriotic. In most cases, the expert farmer can best serve his country on the farm, where he is so terribly needed at the present moment.

THE LAST WORD IN CANNING

How the Housewife May do Her Share in the Conservation of Food

By Ida Cogswell Bailey Allen in Pictorial Review

With thrift as a national watchword, there is no more important subject before American women this Summer than that of canning. We must plant for another year's supply, but we must can to save what we already have. This article deals with the newest and most carefully tested methods of canning, based on the most recent Government investigations.

The old days of the open-kettle method, with its doubtful results, have passed and the intermittent, or three days' canning method has also become a part of culinary history. The wise woman chooses the new cold-pack method which insures fine, firm, colorful results, products that will keep, all with a minimum expenditure of time and energy.

The outfit needed in carrying on the new method of canning is as follows: Agood wash-boiler fitted with a wire rack made to contain from six to ten jars, according to the size of the boiler, and equipped with handles so that the jar-filled rack may be removed without burning the hands; and wide-mouthed glass jars, preferably with covers that clamp on, altho screw-top jars may be used. The rubbers must be new and of genuine rubber to avoid tainting the products with a tar flavor; further there should be a steamer, or an improvised steamer consisting of a wide-topped kettle over which a steamer-top may be fitted to use in steaming greens and other bulky vegetables before putting them into the canning jars.

Commercial Outfits Are Good

Commercial canning outfits may be purchased if desired. The hot water bath outfit is especially made for out-of-door work and is equipped with a fire box with smoke pipe, sterilizing bath, lifting trays, etc.; it is quickly set up and light enough so that it may be easily transported from place to place. If a very large amount of canning is to be done, this outfit will more than pay for itself in the long run, but the results are no better than those obtained by means of the wash-boiler equipment already described. A second type of commercial canner is used as a water-seal outfit in which a higher temperature may be obtained than in the hot water bath outfits described, and which is particularly good in the canning of meats or certain vegetables which are difficult to keep.

Then there are the steam-pressure out-fits which are very practical and which may be used in the household as general cooking utensils. The first cost is a little high, but if one lives on a farm the cooker will pay for itself in short order. With these commercial outfits come adequate directions for their use, so, whereas in this article we are listing in our time-tables the periods necessary for the proper cookery of vegetables and fruits in the water-seal and pressure cookers we are devoting our space to special directions for the canning of fruits and vegetables in the home-made outfit.

Several new terms have come into being along with the new cold-pack method. The following list, with its definitions is self-explanatory.

1. Cold pack.—The packing of uncooked or blanched foods together with some liquid as sirup, water, soup-stock, or vegetable juice into clean jars, covering and then sterilizing or cooking them with their contents by means of boiling water or steam.

2. Scalding.—The dipping of a vegetable or fruit into boiling water to loosen the skin so that it can be removed with the least possible loss of pulp. Also to remove undesirable acids, and to start the flow of the coloring matter; this must be arrested immediately by the cold dip.

3. Cold dip.—The dipping of the scalded fruits or vegetables immediately into cold water for two or three minutes to arrest further cooking and, therefore, to harden the heated pulp. This coagulates the coloring matter so that there will be less loss of color during the sterilization period and, at the same time, the products may be handled to much better advantage in packing.

4. Blanching.—To boil or steam the product to be canned for a brief time before packing into the cans. Unless it is necessary to remove a strong flavor; as that of cabbage or dandelions, it is far better to blanch the tproducts by means of steam, as there is then no loss of food value. The process is necessary to remove objectionable acids and bitter flavors, to reduce the bulk of vegetables like spinach, and to obviate all necessity for the use of the old-time, intermittent process by which it was necessary to boil the fruit or vegetables in the jars for three days in succession, to insure the destruction of all germ life.

5. Sterilizing, or Processing.—These terms are used interchangeably and refer to the steaming or boiling of the filled jars for the purpose of destroying all spores, germs, and bacteria. Needless to say this is the most important part of the process, for if sterilization or cooking is not complete the canned goods will not keep.

To achieve good results in the home process of canning it is absolutely necessary to follow the directions carefully and to make sure that the products actually sterilize the right length of time. It is a very easy matter, for instance, to prepare a half-dozen jars of corn and to leave them sterilizing in the kitchen while work is being done in another part of the house. The fire may get low, however, and the jars actually sterilize by means of the boiling water only two hours instead of the necessary three. The corn [illegible] would [illegible] trouble [illegible] time [illegible] done, such [illegible] or soft berries [illegible] pleted [illegible] other [illegible] done in the kitchen.

Unless it is necessary to can in large quantities in order to utilize produce [illegible] in order to make money [illegible] products in quantities [illegible] done a few jars at a time in a kettle of moderate size equipped with a round wire rack to hold the jars. If two or three jars of each fruit and an equal number of vegetables are canned as the foods are in season, the housewife with a small family will find that during the period from May through October, she will have accumulated a wide range of canned foods at comparatively little expense and labor. The collection should begin with rhubarb, running the whole [illegible] out of the Summer fruits and berries through quinces and citrons. The vegetables may begin with asparague and continue through sweet potatoes and pumpkin.

Whatever the vegetable or fruit, the general processes of preparation and sterilization are the same.

1. Scald, or blanch the food according to the length of time noted on the time-table.
2. Dip in cold water.
3. Remove the skins if necessary, ermove any cores, blossom ends, stems, or stones, according to the nature of the food to be canned.
4. Pack into wide-mouthed jars as closely as possible.
5. Fill the jars almost full with the desired liquid and add salt according to directions, if needed.
6. Adjust the rubbers and tops and partially clamp them on, or, if Mason jars are being used, screw the tops down until they touch the rubber, but do not absolutely close the jars, as otherwise the expanded air can not escape and will cause them to crack.
7. Sterilize the required length of time, in water which will come to the rim of the jars.
8. Remove the jars, tighten the covers, and turn the jars upsde down on a cloth away from a draft, covering them with a cloth so that a sudden breeze will not cause them to crack.
9. After a few days, loosen the clamps and pick up the jars by the covers. If sterilization has been complete the covers will not come off as a complete vacuum will be formed. Clamp again and put the jars away after wrapping them in paper or cloths to assist in preserving the color.

Special Directions for Canning Vegetables

Allow a level teaspoonful each of salt and sugar to each quart of boiling water used in canning the vegetables. Substitute the juice obtained by boiling tomatoes for water in canning tomatoes. Use absolutely fresh vegetables. This is especially true of corn and peas. Scrub all root and tuber vegetables as carrots, sweet potatoes, etc., thoroughly with a vegetable brush, then [illegible] to remove the skins. In canning corn on the cob, remove the husk, silk, etc., and blanch the corn on the cob eight minutes for medium sized ears, five for small ears and longer for large. Re-steam it when taken from the can for serving, rather than boiling it a second time. In preparing corn cut from the cob, blanch on the cob, then remove the kernels with a sharp knife. String beans before blanching. Clean mushrooms, and if large cut them in

TIME-TABLES FOR BLANCHING AND STERILIZING

VEGETABLES	Blanching Minutes	Home Water Outfit, Min.	Water-Seal Outfit, Min.	Pressure Cooker (5 lbs. Steam), Min.
Asparagus	5 to 10	60	60	40
Peas	8	120	90	60
String-beans	8	120	90	60
Young Lima beans	8	120	90	60
Corn	5 to 15	180	90	60
All greens, as spinach, chard dandelions, etc.	10 to 15	90	60	40
Green peppers	5	180	90	60
Okra	5	120	90	60
Squash and pumpkin	5	60	50	40
Cabbage	20	90	60	50
Beets	7	90	75	60
Carrots	7	90	75	60
Tomatoes	2	22	20	10
Sweet potatoes, parsnips, turnips	5	90	70	60
Eggplant	5	60	50	45
Brussels sprouts and cauliflower	15	90	60	50
Succotash	15	180	90	60
Mushrooms	5	90	60	50
Rhubarb	2	20	20	15

FRUITS	Blanching Minutes	Density of Sirup Needed %	Home Water Outfit, Min.	Water-Seal Outfit, Min.	Pressure Outtfi (5 lbs. Steam), Min.
Strawberries	(no blanching)	35	16	10	8
Raspberries	"	35	16	10	8
Blackberries	"	35	16	10	8
Loganberries	"	35	16	10	8
Sweet Cherries	"	35	16	10	8
Blueberries and huckleberries	"	30	20	15	10
Grapes	"	25	20	15	15
Wild grapes	"	35	20	15	12
Oranges, sliced	"	18	10	6	5
Wild & damson plums	"	30	16	12	12
Currants	(blanched) 1	30	16	12	10
Gooseberries	" 1	30	16	12	10
Sour cherries	" 1	35	16	12	10
Cranberries	" 1	35	16	12	10
Peaches	" 2	30	16	10	8
Apricots	" 2	30	16	10	8
Pineapple	" 5	30	35	25	25
Figs	" 6	25	40	30	25
Pears	" 1½	25	20	12	8
Apples	" 1½	25	20	12	8
Quinces	" 1½	25	20	12	8
Citron	" 10	25	35	25	25
Cantaloup	" 10	25	35	25	25
Oranges	" 1½	20	12	8	6

quarters. Clean greens thoroughly, then steam.

In canning either pumpkin and squash for pie fillings, steam until tender, then mash, add a cup of sugar and a teaspoonful of salt to each quart of pulp, then sterilize as directed. All vegetables and fruits should be graded according to size, so that the various pieces will cool through in the same time. This adds greatly to the appearance of the finished jar as well.

..Canning powders should never be used as they contain boric, or salicylic acid, which are drugs and have no place in foods. At the same time, their use is absolutely unnecessary, if care is taken in canning, and they are an additional expense. Finally, most of them contain ingredients which are prohibited, or forbidden in many States, and by the Government.

If desired, special seasonings may be added to the jars of vegetables along with the salted water; for instance, pickled young carrots are delicious. In this case a half cupful of strong vinegar, a tablespoonful of sugar, and a teaspoonful of whole pickle spice could be added to each pint jar of carrots. Pickled beets may be made in the same way. All kinds of greens may be canned according to the time-table given herewith. These include the edible wild greens as well, such as milk-weed sour dock, purslane, etc. In canning greens, cabbage, or Brussels sprouts, it is a good plan to season them by putting into the center of each jar a thin slice of fat bacon, salt pork, a little minced raw ham, dried beef, or olive-oil.

Special Directions for Canning Fruits

Fruits may be canned with or without sugar, but it is a saving of both time and fuel if a sirup composed of the proper proportions of sugar is used to fill up the can rather than plain water. However, if sugar is prohibitive in price, the fruit may be covered with plain water instead of sirup. In this case the unsweetened fruit should be drained from the juice before using, the right quantity of sugar added to the juice, and the whole boiled toegther for a few minutes, the fruit being added in time so that it may become thoroughly sweetened. By ths method, however, the fruit is always overcooked by the second heating, and, therefore, loses brilliancy, both of flavor and color.

Sirups of different densities or degrees of sweetness are used in the canning of fruits, the choice depending upon the tartness of the fruit and the richness of the result desired. The following table gives the amounts of sugar and water needed in preparing sirups of different percentages or densities; the sirups will hereafter be designated in this article by the density, or percentage:

Sugar	Water	Per Cent.
1 lb.	3 qts.	16
1 lb., 4 ozs.	3 qts.	20
1 lb., 9 ozs.	3 qts.	25
2 lbs., 8 ozs.	4 qts.	30
1 lb.	1½ qt.	32
2 lbs., 8 ozs.	3 qts.	40

General Directions for Canning Fruits

The general directions for canning fruits have been given earlier in the article. The steps in the process are the same as in the canning of vegetables, except that it is not necessary to always blanch the fruit. The same principles are applied; however, there are a few additional points that should be especially noted. The fruit should be fresh, firm, but ripe, entirely free of all leaves and stems, and absolutely free from rot, blemish, or mold. If gritty, as with strawberries, it should be thoroughly cleaned.

The skins should be removed from peaches, apricots, pears, oranges, apples, and quinces by blanching. Soft fruits which are of a sweet nature, like strawberries, raspberries, loganberries, huckleberries, or blueberries, figs, and wild and damson plums as well as grapes, need no blanching, but oour berry fruits, as currants, gooseberries, cranberries, and sour cherries ae better if quickly blanched. Pineapple and citron need longer blanching, because they are harder. It is not necessary to fill the can to overflowing with boiling water or sirup, whichever is to be used; it is enough to fill it to within a quarter of an inch of the top.

In every case where the skin, cores, or seeds are to be removed, the blanching and cold dip should take place before it is done, as otherwise there is liable to be considerable loss of flavor. The stones should be removed from peaches and apricots and the fruit canned in halves. If desired, one peach stone may be allowed to a jar to enhance the flavor. Pineapple should be pared, the eyes removed and the pineapple cut in convenient sections before blanching. Citron, cantaloup, and oranges should also be pared before blanching. The cantaloup will be greatly improved if spiced; in this case use a sirup made of five pounds of sugar, a pint of vinegar, a cupful of water, a half cupful of broken stick cinnamon, and a third of a cupful of whole cloves to seven pounds of fruit. Pears, figs, peaches and watermelon rind may also be pickled in sirup of this kind.

The sirups indicated in the table are of the sweetness used by the best commercial canners. If desired, richer sirups may be used, byt if this is done there is danger of introducing too much sugar into the dietary. If desired, apples may be baked, packed into jars, covered with a thin sirup of twenty per cent. and sterilized twenty minutes in the home water outfit. In this

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Every bushel added to the food supply available for 1918 will be a definite service to the Empire, and at the same time will bring its own reward to the grower—for never in this generation have crops brought such returns. Never has there been such a patriotic incentive to make big money, for

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Yours, &c.,
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LET a woman ease your suffering. I want you to write, and let me tell you of my simple method of home treatment, send you ten days' free trial, postpaid, and put you in touch with women in Canada who will gladly tell what my method has done for them.

If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:

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case the sirup should be boiled down and poured over the apples at serving-time. Canned, sliced oranges may be used for salad purposes and so may canned and quartered apples.

Preserves, suh as strawberry, raspberry, cherry, plum, etc., may be cooked slowly according to the usual methods, cooled, poured into jars and sterilized for twenty minutes with the home water outfit, or fifteen in a water-seal or five pound steam-pressure outfit; this is an extra insurance against spoilage. Fruit juices may be canned according to this general method with or without sugar, but the time of sterilization may be slightly lessened.

So far as possible, it is better to prepare, blanch, and pack one or two jars of a product at a time. This is especially true of corn, peas, beans, and asparagus. Care should be taken that unbroken vegetables and fruit be packed into the jars if appearance is to be considered.

Mold may develop if the seal is defective, or if the jar tops are removed to slip the rubbers back into position. If this is done the jars must be resterilized for five minutes. Mold may also appear if jars are kept in a damp place where the rubbers may decompose. The best water for canning purposes is pure, soft, and free from excessive quantities of mineral matter. the EDITOR'S NOTE:—With the importance of the conservation of food facing us as it has not done in many generations, it is for the women of our country to make this the greatest canning season ever known. The Government not only publishes valuable bulletins on canning, but, if you are unskilled, they will send an agent to your community. Write Miss Jennie A. Fraser, Truro, Supervisor Womens Institutes for Nova Scotia; Miss Hazel Winters, Fredericton, Supervisor Womens Institutes for New Brunswick; or Miss Hazel L. Stearns, Charlottetown, Supervisor Women's Institutes for Prince Edward Island.

THE FOURTH SPRAY

Written by G. E. Sanders and W. H. Brittain at the request of the United Fruit Companies

The season of 1917 has proven in many respects very similar to that of 1913, with abundant development of apple scab before the blossoms. Whether this will result in the elimination of the crop in the orchards not receiving the pre-blossom spray is still a matter of doubt. In any event the orchards that did not receive the pre-blossom spray or any spray, will suffer severe leaf injury and will bear very inferior, if any, fruit.

With the advent of the new spray gun, which has resulted in halving the cost of application of spray as well as wetting the trees more thoroughly than any oher spraying device heretofore invented, still more dilute solutions must be used than with the old ype of mist nozzle.

For the last summer spray we must have a mixture that will remain effective over a longer period than for any previous, for the blossom of the coming year depends on the trees retaining a healthy foliage until late in the season than on any other single factor.

Fourth Spray

Time.—Ten days to two weeks after the third spray.

Material—First Choice; Bordeaux 7-7-100, adding paste lead arsenate 5 lbs. to 100 gals. or powdered arsenate of lime 2 lbs. to 100 gals.

Second Choice; Lime sulphur 1.005 sp. gr. or 1 2-3 gals. to 100 gals. water, (1-60) adding 1¼ lbs. powdered arsenate of lime to 100 gals. water.

Application.—Use 200 lbs. pressure and a calyx nozzle or a spray gun.

Pests Destroyed.—Apple scab, Pit, rot, Fruit worms, Codling moth, Tussock moth, Fall webworm, Red-humped and Yellow -necked caterpillars and Fall feeding Browntails.

Ordinary Bordeaux mixture, somewhat weaker than ordinarily used is recommended for the last summer spray on account of its better sticking qualities, as well as on account of the fact that the ordinary Bordeaux does not cause dropping of the young fruit when used at this time. We have found that 7 pounds of copper sulphate and 7 pounds of lime (stone) to 100 gals. of water is practically harmless as far as the foliage and fruit are concerned, when used two weeks after the blossoms fall and later. The use of Bordeaux immediately after the blossoms fall will result in severe russetting, while the use of Bordeaux before the blossoms will also result in slight russetting of the fruit.

We find that almost any of the common poisons can be used with a greater degree of safety with Bordeaux mixture than alone. There seems to be no object in using Paris green on account of its high cost at the present time and danger from injury. Arsenate of lime, two pounds to 100 gallons, makes a very satisfactory poison with Bordeaux mixture, but the best poison for use on the apple is probably paste arsenate of lead. We tested out various poisons many times with Bordeaux and, with only one exception, the paste arsen-

(Continued on page 604)

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DEHORNING OF CATLE

Eighteen Reasons why all Utility Cattle Should be Dehorned. By W. Fraser, Live Stock Commissioner For Manitoba

1. They are worth 40c. to 50c. per cwt. more live weight.
2. They make better cattle when matured.
3. They are more contented.
4. They are more kindly to one another.
5. They do not produce in the other animal a nervous, restless temperament by inflicting injury, often severe, as they do if wearing horns.
6. They produce more milk, since they are free from fear of each other.
7. They produce more beef for the same reason.
8. There is less danger to the people who have them in charge.
9. The bull, which sometimes kills his keeper, cannot do so if dehorned.
10. He cannot gore to death o horse or other animal, as is too often the case where the horns are on.
11. They can be housed in much smaller space, and kept more comfortable with less expense.
12. One animal cannot guard a doorway and keep the others exposed to the elements.
13. One cannot hook all the others from the water trough.
14. The shrinkage is much less in shipping.
15. They are not torn and bruised in shipping.
16. At least three head more cattle can be shipped in the same car.
17. A mixed lot of more or less inferior cattle will sell much more readily dehorned.
18. More and better cattle will be produced as a consequence.

The dehorning can be most satisfactorily done when the calf is but a few weeks old by the applying of a little concentrated lye or caustic potash to the young horn.

I respectfully request the co-operation of all interested in the cattle business in any way whatever to use their influence in making dehorning universal.. I am thoroughly convinced that it would increase the number of cattle to a very marked degree, and thereby increase our resources.

KEEP MILK PAILS ALWAYS CLEAN AND PERFECTLY SANITARY

In hand milking the pail used plays a great part in the production of clean milk. A pail with an opening larger than the lower part of the vessel gives the best opportunity of course for the milker to "hit the pail", but it also gives dirt of all kinds the best chance to get into the milk during the process of milking. Some pails taper towards the top, others are partly covered so that dirt does not have a good chance to enter and others have a hood extending so far over the top that it is almost impossible for anything to fall into them. These all have their advantages and everyone who does his milking by hand should exercise care in choosing the type of pail he can use to the best advantage. The more nearly the top is closed, the harder it will be to see that the pail is kept clean and a dirty pail may be a greater source of contagion than the dirt, hair, etc., which falls into the milk when milking.

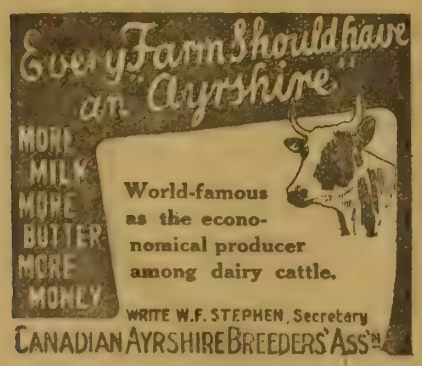
A pail ought to have the seams filled with solder so that the inside of the vessel is smooth. It is easier to solder on the ouside and often the seams on the inside are left open and very soon after one begins to use the pail a yellow deposit of milk and cream settles there which ordinary washing will not remove. Here the microbes multiply between milkings and seed the warm milk with a crop of bacteria which soon causes the milk to change flavor.

Milk pails are sometimes made with double bottoms in order to prevent rusting. The inside bottom is made of zinc. This after a time gets a hole in it and then is becomes a veritable hotbed for propagating the microscopic plants. When the warm milk comes into the pail the air under the false bottom expands as will be noticed by the bubbles rising in the milk. When the milk cools the air under the false bottom contracts and milk is drawn between the bottoms where it can never be washed out. Here is putrefies and is a constant source of contamination.

I was acquainted with a case where a high.priced milk pail thus acted as a source of contamination for a long time before it was discovered where the microbes came from. When the hole was discovered it was impossible to get it soldered so that no milk could go between the bottoms until a hole was made in the outside one. Sometimes strips of zinc are soldered across the bottom of pails to prevent rusting by the unequal oxidizing power of the metals. Here the same thing is likely to occur and hide an enemy which is worse than a hole in the pail.

A fruitful source of bacteria in milk is the strainer. Brass strainers are sometimes placed on milk pails. These are often so filled with dried milk that the milk flows through but slowly. Often a cloth strainer is used and washed after each milking. If this is not washed carefully with cold water, then with soap or some good cleansing powder and warm water then thoroughly scalded it becomes a prolific source of contamination. The strainer after having been scalded should be hung in the sunshine to dry and air. The pail should be washed in the same way and then placed in the sunshine to dry and air. Everybody knows that it is of paramount importance to keep all utensils used in connection with milk as clean as possible at all times. Many of us, however, are very careless in this respect.

O. V. J.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ACTUAL EXPERIENCE IN COW TESTING

The following experience in cow testing from a farmer, outlines some of the revelations which this simple practice brings, and notes the results which naurally follow a careful system of testing and weighing milk.

"I started to keep records about five years ago. The results were surprising, and the longer I kept at it the more interesting it got. The first thing I noticed was that at the least little disagreeable change of temperature, a cold rain, a snow flurry or a cold southeast wind, if the cows were kept in or had a shed to run in it made a difference according to the scales. Here are some other points: I never sprayed the cows for flies before I started weighing. Now I usually start to feed meal in the fall as soon as I notice by the scales that the yields are going down, and I also notice I am starting to feed a little earlier each fall. By watching all these things one gets the cows milking a longer period each season.

"The last two years I have had several cows milk almost up to freshening time again, in fact two cows a year ago and one last spring were not dry at all, had a calf and went right on milking. This should not happen, but in these cases I did not know the cows' calving time exactly. I believe by weighing the milk and careful watching of details one can get the cows up to a high standard of milk production. I think the scales instead of being a bother and taking too much time to weigh each cow's milk, are the best paying cows' in the stable, with only three or four dollars invested. We milk from twenty to twenty-five cows as a rule. At first I weighed the milk after each milking and afterward only twice a week, but I soon got back to each milking again, for when one weighs it twice a week he does not notice any drop in the yield quickly enough.

"By weighing and testing the milk I have certainly found out some very surprising things. I had a very rough looking cow with long, coarse hair, about as rough a looking cow as you could find and I didn't pay much attention to her as a milker. At the end of the first year of weighing and testing, her average test for fat was four per cent., and she gave nine thousand pounds of milk, so I considered she was worth keeping for a while at least. Another large fat cow was in a bunch I bought so I had to take her, but thought I would turn her over to the butcher. However, the scales told me I had better keep her, for she gave more milk on less feed than any cow I had and was fat enough for the butcher at any time. I also found out by the scales that different cows required different amounts of each kind of feed to get the most out of them. If you feed a cow what she likes best, whatever kind of meal it is, the scales will soon tell you if she is making returns for it. The first year of testing the two best looking cows in the herd, and, as I thought good milkers, were turned off to the butcher. The best looking cow last year went to a dealer. The scales are sometimes a bad thing for the look of your herd, as they are no respecter of looks. The best lookers are not always the best payers, and I believe the money spent on a set of scales and a four-bottle testing machine is money well spent. Moreover, the time spent in this work has been very interesting as well as profitable."

Sometimes a cow is difficult to milk because the opening in the teat seems too small. Get a milk tube, sterilize it and press into the opening so as to draw off the milk and stretch the orifice until it is large enough for a full flow. Sometimes a cow has a hard lump in the udder. Rub it every third day with a mixture of two drams of iodine in two ounces of lard until the lump disappears. Often when a cow is hard to milk or holds it up she will come all right from feeding a little bran or grain, as this diverts her attention from the nervous action which is the source of the trouble. When the calf comes, care in milking will prevent the milk fever. In case of attack pump air into the udder with a bicycle pump.

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Who is content to be a human jelly-fish? Who doesn't WISH to gain all there is in life—to get his full share of the good things? And we know that to gain these things in greater measure we must improve, train ourselves, Do. All material success in life is founded on this axiom "he profits most who serves best."
Let us help you improve your power to serve.
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It pays to attend an Accredited School.

We would like to take a SUMMER VACATION, but will not get a chance to do so, as some of our students would be inconvenienced thereby. We can stand it, however, as St. John's summer weather is ideal for study.
One of the principals, and other experienced teachers, always in attendance. Students can enter at any time.
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Summer Packs

Made of our famous Oil-Tanned Skowhegan waterproof leather; they have waterproof sole-leather outsoles and solid insoles. The soles, too, are attached by an improved clincher fastener process. They are staunch, light-weight working shoes for spring, summer and fall. Your dealer will likely have them; if not, write us, giving his name and address.

John Palmer Company, Limited.
Fredericton, N.B., Canada 29

This New Farm Boot

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FOR SUMMER WEAR

POSTPAID TO YOU FOR

$4.50

The wonderful chromoil leather in these boots is a big improvement on the best ordinary "Oil-Tan." It is waterproof not only on the surface but all the way through. It does not dry out nor crack from heat, nor stiffen up quickly from frost. It retains through everything the soft suppleness that makes it so comfortable.

The shape, too, is n w and better, combining the easy comfort of the Indian moccasin with the permanent form of a regular boot. This is ensured by building it on a last, and giving it a solid extra long counter in the heel. It's a boot that will stand up to the hardest kind of service, in any weather, and outwear any other working boot you have ever tried.

At the same time, it is light in weight and easy on the feet, and remarkable value for the price.

If your dealer cannot supply you with these new Palmer-McLellan Chromoil Tanned Farm Boots, mail us the price and we will ship you a pair postpaid.

Men's Sizes	6	inches high,	per pair		$4.50
" "	10	" "	" "		5.00
Boys' "	6	" "	" "		3.50

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Write for free booklet describing Chromoil Tanned Leather and its merits.

Advertise in the MARITIME FARMER

CREAM IS STRINGY

Bad odors and stringiness are produced from a variety of causes. Impure water is one of these; weeds another. Different kinds of food, even wholesome foods, often cause undesirable flavors. Cows too far gone toward freshening is a frequent cause of viscosity and odors; also disease, especially of the udder, such as garget mamitis or tuberculosis. We cannot tell the cause without a careful examination. One cow may cause the whole trouble. Carefully examine each cow's milk separately by taking samples and setting each in a glass or teacup, and allowing to stand in a warm place until sour, at the same time noting the smell of each daily. By carefully following up this plan you will soon find out the cause. Then remove the cause and you have the cure.

GRAIN FOR THE CALF

When skim milk is substituted for whole milk in feeding the calf, something needs to be added to replace the butter fat removed in the cream. Corn can be used to good advantage. It is better cracked than ground fine. Bran is good and ground oats are splendid. A mixture is better than just one of them. The calf will begin to eat feed when two to three weeks old, and should have access to it. The best way to feed grain is dry, and care should be taken not to allow any of it to remain in the corners of the feeding box, as it will sour and may cause digestive troubles. Boiled ground flax seed is also used with skim milk to make up for the fat removed.—North Dakota Experiment Station.

COTTAGE CHEESE

Skim milk can be made into cottage cheese which is a wholesome and nutritious food. Sour the skim milk, then set the container in a pan of water 100° F. or that feels warm to the hand, leave there 20 minutes, stirring occasionally. Then pour into a cheesecloth bag or salt sack and hang up to drain 5 to 10 minutes, work the curds until they become fine in grain. The addition of cream improves the flavor. Salt and flavor to taste.

Skim milk is not always used to its full value as the fat only has been removed. The other valuable nutrients are left and these are the tissue-building nutrients and so can to a large extent replace meat. In cottage cheese, these nutrients are brought into a more concentrated form.—North Dakota Agricultural College.

EARMARKING SMALL FLOCKS OF SHEEP

In most flocks of sheep, especially of pure bred animals, it is advisable to use some system of flock numbers aside from the registry number. It is easy for an ear tag to be lost out, but a good system of ear notches serves as an identification at all times.

The system used at the Colorado Agricultural College is one which can be recommended for small flocks. C. S. Anderson, in describing his method says: One notch in the base of the lower part of the left ear 1; two notches at the same place represents 2; one notch in the upper part of the left ear 3; one notch in the lower and one in the upper part, 4; and one notch in the point of the left ear, 5; one in the point and one in the base, 6; one at the point and two on the base, 7; one on the point and one in the upper part, 8; one in the point, one in the base and one in the upper part, 9. The right ear represents the tens, number ten occupying the same position as number one on the left ear. In breeding ewes certain markings such as holes in the middle of the ear can be used to designate the year of birth.

The system is only applicable to the small blocks of less than a hundred sheep. If one wishes to mark a larger flock, there is a more complicated system by which sheep numbering up to ten thousand may be ear marked. It is not commonly used. These systems can also be applied in the marking of cattle or hogs.

HOT WEATHER

the season when a

DE LAVAL SEPARATOR

saves most over any other separator or skimming system

IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months especially with butterfat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butterfat losses with gravity setting and render it most difficult to maintain quality of product with any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

Then there is the great saving in time and labor with the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator.

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Indigestion Resulted From an Inactive Liver

The Bowels Became Constipated and the Whole Digestive System Upset.

With many people constipation becomes a habit. And it is a dangerous habit which is certain sooner or later to cause serious disease.

"Daily movement of the bowels" is the first and most important rule of health. When the liver becomes torpid the flow of bile into the intestines is stopped and the bowels become constipated. But you can readily overcome this condition by using Dr. Chase's Kidney-Liver Pills. There is no treatment obtainable which so promptly awakens the activity of the liver and bowels and thereby corrects derangements of the digestive system.

Mrs. Herbert Doherty of Beaver Brook, Albert Co., N.B., writes: "I can truthfully say that Dr. Chase's Kidney-Liver Pills are a great medicine for constipation. I have suffered from constipation ever since I can remember, but got to using Dr. Chase's Kidney-Liver Pills and was so benefited that I began to study this malady. I found that the indigestion resulted from a bad case of inactive liver, and as soon as I got the liver working right I didn't have any stomach trouble or indigestion. I cannot praise this medicine too highly, and would advise anyone suffering from indigestion or constipation to use Dr. Chase's Kidney-Liver Pills. My husband also claims that these pills have done him more good than any medicine he ever used. You are at liberty to use this letter."

Dr. Chase's Kidney-Liver Pills positively relieve and cure torpid liver, constipation, biliousness, indigestion, backache and kidney disease. Put it to the test. One pill a dose, 25 cents a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

LIVE STOCK.

BUILDING SILO TO SUIT FARM

Could you give me a table of silo sizes and capacities, also an estimate of the cattle a given silo will feed, and the number of acres necessary to produce ensilage? J. H.

Most silo feeders now feed ensilage to stock fully six months of the year; many feed it the entire year. While the size of the silo can be determined almost correctly in each individual case, the following table of some of the most popular sizes, and the capacity of same, will prove of assistance to those who contemplate building a silo for the first time:

These figures are based on a feeding period of 180 days, feeding forty pounds a day, per head.

Diam.	Height.	Capacity in tons.	Cattle.	Acres
10	20	30	8	3
12	20	45	12	4
14	20	60	16	5
16	20	80	21	7
18	20	108	28	9
10	22	33	10	3
12	22	50	14	5
14	22	67	19	6
16	22	90	26	9
18	22	115	33	11
20	22	128	38	13
10	24	40	11	4
12	24	55	16	5
14	24	73	21	7
16	24	100	28	9
18	24	120	34	11
20	24	140	40	13
22	24	165	48	16
24	24	200	56	19
10	26	43	12	4
12	26	60	16	5
14	26	80	21	8
16	26	107	30	10
10	26	130	38	13
20	26	152	44	15
22	26	180	51	18
24	26	218	60	21
10	28	45	12	4
12	28	70	19	7
14	28	87	25	9
16	28	115	33	11
18	28	135	38	13
20	28	170	49	17
22	28	205	58	20
24	28	247	70	24
10	30	47	12	4
12	30	80	21	8
14	30	95	27	9
16	30	120	34	12
18	30	150	44	15
20	30	185	52	18
22	30	225	64	22
24	30	296	77	27
12	32	86	25	8
14	32	103	29	10
16	32	130	38	13
18	32	160	46	16
20	32	198	56	20
22	32	240	72	24
24	32	285	81	28
14	34	108	30	10
16	34	142	40	14
18	34	180	51	18
20	34	220	63	22
22	34	275	78	27
24	34	308	88	30
14	36	115	33	11
16	36	150	44	15
18	36	190	54	19
20	36	235	71	23
22	36	290	82	29
24	36	325	92	30

It may be remarked that the best current opinion favors the silo of considerable height. Silos up to 65 feet in height are now being built and good results are reported. It is hard to prevent waste of ensilage in a silo of large diameter.

EXPERIMENTS IN CONTROLLING ABORTION

The Health of Animals Branch of the Dominion Department of Agriculture has been conducting experiments with the object of ascertaining methods of controlling contagious abortion in cattle. The results of this work are briefly summarized in the following paragraphs, prepared by Dr. F. Torrance, Veterinary Director General for Canada:

Experiment I.—Four heifers, aged 1 year, were inoculated with our protective vaccine January 26th, 1915. The test of the blood of these heifers showed that one of them was already infected with the bacillus of contagious abortion, and all four were living in a herd in which the disease was known to exist.

The four heifers were bred on the following dates: April 21st, April 23rd, April 23rd and December 18th, 1915. They all calved, the dates being respectively January 26th, January 26th, January 12th and September 11th, 1916.

Experiment II.—Ten yearling heifers were inoculated March 20th, 1915, four of which reacted to the test for contagious abortion. They were bred after an interval of about three months. (Accurate dates cannot be given in this case, as the herd records were destroyed by fire). All became pregnant; eight carried their calves to full term and produced living offspring; two aborted.

Experiment III.—Four heifers, yearlings, were employed to test a method of employing a serum as well as a vaccine. With the first two, the serum and vaccine were used simultaneously; with the second two, the serum was given ten days prior to the vaccine. When tested, the first two had reacted to the test; the second two did not react. The first two were bred December 16th, 1915, and August 25th, 1915, and both aborted,—July 12th, 1916, and April 16th, 1916. The second two were bred December 23rd, 1915, and November 9th, 1915, and produced living calves September 20th, 1916, and August 5th, 1916. This experiment was unsatisfactory,

The Testing Time!

Russia Prospers

During the first eight months of Prohibition in Russia the Savings Banks reports show savings increased 5,000 per cent. (net).

WHEN the test of the world-conflagration called for every ounce of strength in every available man to stem the tide of destruction, one of John Barleycorn's greatest friends, Russia, was the first to abolish the Traffic because it could not meet the test. In good time, when her hour of test arrived, New Brunswick banished the great Drink curse let us hope forever!

After the war, in his turn, John Barleycorn is going to put New Brunswick to the test. Prohibition may again be voted upon after the war.

Every bit of lax enforcement and indifference is just so much ammunition for him to use against us. How does Prohibition meet the test?

Russia—

Some idea of the enormous effect of Prohibition is afforded by the wonderful example of Russia. In spite of the fact that millions of producers are in the army the savings of the people enormously increased. In 1912 and 1913 they were saving, per year, about $20,000,000. In the first five months under Prohibition they saved $60,000,000. In 1915 the banks took in $265,000,000. For the first half of 1916, the Russian people saved $300,000,000!

The Dakotas—

Town and city population in South Dakota under License increased 168 per cent. in 20 years. In the Prohibition state of North Dakota it increased 494 per cent.!

In "dry" North Dakota, for the year 1909, 2,789 men produced $19,137,000 worth of manufactured goods. In the "wet" Dakota it required no less than 3,602—***813 more men***—to produce only $17,870,000 worth of manufactured goods, or $1,267,000 ***less!***

In 1890 commitments to Insane Asylums in "dry" North Dakota were 40 persons per 100,000 ***more*** than South Dakota. After twenty years of Prohibition they were ***forty less!*** And the Prohibition State began the period with only about half the population of its neighbor!

South Dakota has since adopted Prohibition

Help to Enforce Prohibition

Permanent Prohibition in New Brunswick demands strict enforcement between now and the day when Prohibition may again be voted upon after the war. The whole task of enforcement must not be left to the officers of the law alone. Everyone should help. Eternal vigilance is the watchword.

Dominion Temperance Alliance

NEW BRUNSWICK BRANCH

DONALD FRASER, President, Plaster Rock, N.B.
REV. THOS. MARSHALL, Vice-President, Fredericton, N.B.
W. G. CLARK, Treasurer, Fredericton, N.B.
REV. H. C. ARCHER, Executive Secretary, Fredericton, N.B.

21

BAD STOMACH AND CONSTIPATION

CURED BY

MILBURN'S LAXA-LIVER PILLS

Mr. Sylvester Clements, Galt, Ont., writes: "I wish to express my heartfelt thanks for what Milburn's Laxa-Liver Pills have done for me. I have been suffering from a bad stomach and constipation, and would be off work for 4 or 5 months a year. I was hardly able to be inside without getting a severe headache. I tried doctor's medicine and other remedies, but got no relief until a friend advised me to use Milburn's Laxa-Liver Pills. Now I can work inside without any headaches or pain. I would not be without your remedy for anything.

I write this so that anyone suffering the same as I did may use them and be cured."

Milburn's Laxa-Liver Pills are 25 cents per vial. For sale at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

and gave conflicting results, but shows that the simultaneous method of giving serum and vaccine did not prevent infected heifers from aborting.

Experiment IV.—In this experiment an effort was made to find out how far the vaccine treatment would prevent abortion in cows which had previously aborted.

Eight cows were selected, ranging from two to seven years in age. All had previously aborted, one of them three times, the others once. All but one reacted to the test for contagious abortion. None were pregnant when inoculated nor bred afterwards until some weeks had elapsed. The result showed six cows produced living calves at full term; one cow proved to be barren and was slaughtered; and one cow reacted when the herd was tested with tuberculin and was slaughtered, having previously aborted.

The method used in this experiment was a double inoculation with a mild vaccine first, followed by a strong vaccine several days after.

Experiment V.—Four cows, aged two to seven years, and four yearling heifers were used. The cows had all aborted previously, one of them twice, the others once. Three of them reacted to the test for contagious abortion. All were treated by the double method, and were bred after a suitable interval with the following result: one of the cows, the one that had aborted twice previously, aborted again. All the others produced living calves.

These experiments have resulted in obtaining 27 living calves from 34 cows and heifers in badly infected herds. This encourages us to hope that we have a really useful method of producing immunity to the disease, and we are anxious to enlarge our experience by extending our work to other herds.

With this object, we now offer to treat free of charge a limited number of herds in which contagious abortion is present. Owners are requested to make application in writing to the Veterinary Director General, Ottawa, stating the number of breeding females in the herd.

Applications will be dealt with in the order of their receipt.

PARALYSIS IN HOGS

Azoturia of the horse, characterized by sudden paralysis of one hind leg or both, invariably is preceded by heavy feeding on a protein-rich ration during the spell of idleness. Active exercise and light laxative rations when there is no work for the horse to do, successfully prevents azoturia. Like measures of management are equally ncessary for the welfare of other animals.

Understanding the causes of azoturia of the of the horse and knowing preventive measures, we are in a position to view paralysis of hogs in a new light. It is now believed that one form of paralysis in these animals is similar in most respects to azoturia of the horse—that "going down behind" in heavy hogs and especially in sows that are nursing pigs.

It is commonly believed by farmers that such attacks of paralysis are caused by kindney worms. Postmortem examinations have proved that this idea is erroneous. Most of the paralyzed pigs show no trace of kidney worms while such worms often are found in apparently healthy swine. In some cases deep-seated abscesses are the cause, but in perhaps a majority of instances the causes are prolonged over-feeding with protein-rich rations, lack of exercise and constipation. The latter symptom is especially suggestive. It is seen also in hogs that are stuffed with corn and given little exercise and no laxative feed. It must be added that rickets in corn-fed hogs may have much to do with loss of power of the hind legs, and that the fat sow bred from highly fitted ancestry is most susceptible to paralysis, aggravated into actuality by the drain and strain of nursing pigs. Close observation has shown conclusively that constipation particularly and excess of protein in the ration of an under-exercised hog tend to induce paralysis. This belief is further corroborated by the fact that prompt purging with epsom salts followed by feeding on thin slop containing epsom salts or raw linseed oil, often leads to speedy recovery.

Prevention of paralysis is to be sought by stimulating activity of the bowels by exercise and laxative feed, and being careful neither to feed a protein-rich nor all-corn diet for a prolonged period.

Concrete Machinery for Farm Use

(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself

Also Crushers, Brick Block, Tile Machines Mixers, etc. New and Second Hand Gas Engines Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont
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IF YOU ARE THINKING OF ATTENDING

Fredericton Business College

next term, NOW is the time to send to us for full particulars, which will be supplied on application.

There is a great demand for young men and women to take the places of those who have gone to the firing line. Address:

W. J. OSBORNE, Prin.
FREDERICTON, - - N. B.

TO THE SHEEP MEN OF THE PROVINCE.

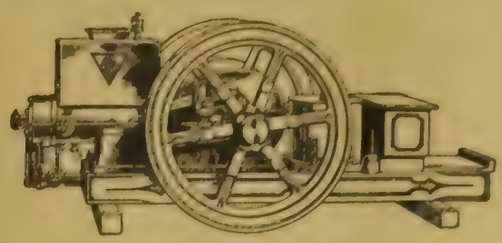
The Honourable J. F. Tweeddale, Minister of Agriculture for the Province of New Brunswick, realizing the fact that many of the sheep breeders and prospective sheep breeders of New Brunswick will be requiring breeding stock, both male and female, for the coming fall, and recognizing the fact that such breeding stock will become scarcer as the season advances wishes it made known that the Agricultural Department of the Province stands ready to help locate and put sheep men in touch with good stock.

The sheep industry should be encouraged in every way possible. The present prices of wool, mutton and lamb are such that every farm should carry its full quota of these money makers. "Stock up this fall with a pure bred ram and a few grade ewes" is a good slogan. The country is preeminently adapted for sheep production. Everything is just right. A new dog law, passed June 22, 1917, is very favorable to the sheep men's interests. The county council when petitioned by twenty-five men in the county, such men being householders and rate-payers, must pass a by-law declaring the dog law in force in that county. This is positive legislation. Legislation that will be beneficial in the widest measure to sheep men. It is up to the sheep men of each county to get up a petition with twenty-five names signed to it and the council will do the rest. Now the dogs may be taxed. These taxes constitute a fund for satisfying losses in the county caused by dogs.

Breeders of pure bred and grade stock are asked to co-operate with the Agricultural Department and supply us with the probably number of males and females that each will have available for sale. Persons desiring to secure animals for breeding purposes are asked to address all communications to Thomas Hetherington, Agricultural Department, Fredericon. This Department is at your service.

W. R. REEK,
Sec'y. for Agriculture,
Fredericton, N. B.

ALPHA



—the engine that takes the work out of farmwork

An Alpha will saw more wood in a day than you can saw by hand in a week

It will pump water all day long without watching.

It will run your separator, churn or washing machine.

It will run a thresher, feed cutter, or silo filler.

There will not be a day when you cannot find some way in which your Alpha will save time, money and labor for you.

Owning an Alpha is cheaper than hiring someone else's engine. The money you now have to pay out for engine hire when you need ppwer, and the greater amount of work you could do if you had an engine of your own would soon pay the cost of an Alpha.

The Alpha is a simple, powerful engine that will give you more reliable service and cause you less trouble than any other engine you can buy.

Ask for catalogue, prices and complete information. Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

THE DE LAVAL COMPANY, LTD.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request.

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50.000 BRRANCHES AND LOCAL AGENCIES THE WORLD OVER

PEERLESS PERFECTION

applies to our Poultry Fencing just right. It keeps your chickens at home—and their enemies out. Each intersection securely locked—the kind that stays "put."

Peerless Poultry Fence

is made of the best Open Hearth steel fence wire—tough, elastic and springy—and will not sag, break or weld under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and will not flake off or chip off. The joints are securely held with the "Peerless Lock" which will not work loose and allows expansion and contraction of the wire without injury. The fence is constructed on the most scientific principles, and thus ensures a neat appearance, lasting service and satisfaction. Write for catalog, Agents Wanted in unassigned territory.

THE BANWELL-HOXIE WIRE FENCE CO., Ltd., Winnipeg, Man., Hamilton, Ont.

Clean to handle. Sold by all Druggists, Grocers and General Stores.

THE HORSE

CHOOSE THE DRAFT SIRE BY THE HIGH CLASS VALUE OF THE COLTS HE LEAVES

The most difficult problem in draft horse breeding is that of the sire. In order to make any advance, to improve the horse stock to make the business successful, a high-class sire is necessary. To the man who is directing an extensive breeding establishment, this problem is not so serious, but to the average farmer who desires to raise a few colts each year, and who must depend upon a public stallion, it is a perplexing one. Fortunate is the community wherein can be found one or more really meritorious draft stallions that are available for public use.

Real high-class stallions are not plentiful. The country is over-stocked with inferior ones, or with those of fair individual excellence that do not beget their kind. The sort that sire colts that testify to the greatness of their sire are found only here and there.

The growth of the draft horse industry has been remarkably rapid, the demand for registered stallians sharp. To supply this demand it is natural that importers and dealers should distribute many ordinary stallions, and many, too that never should have been used as sires. A stallion's real worth cannot be ascertained except in actual service. Some of the good-looking ones, even well-bred ones, are disappointment as sires. Of course this is not the rule, but the fact remains that the true test is service in the stud.

The value of a high-class sire to a community is not represented in the price that is usually paid for him, though that may be high, but in the value of his progeny, or in the margin of value above the average of that for colts begotten by average sires. I know a community wherein a large number of draft sires are kept and 1,000 or more mares are bred each year. In recent years, one particular stallion in that community has sired colts that sold on the average from $50 to $60 above the average of prices received for the get of the other stallions. This means that this particular stallion was worth to that community something like $2,500 a year more than the average stallion, or for the term of his service, about 10 years, $25,000.

We must depend largely upon the sire for improvement in our draft horses. The average farmer will use the mares he already possesses for breeding purposes, and if wise will improve his brood mare stock by careful selection and elimination from his improved young stock. To make continuous improvement, he must have access to a good sire—one above the average. In the selection of such a sire, extra good judgment is required on the part of the farmer. If possible, he should seek for his use proved sires begetting colts that sell for prices above the average. Never be satisfied with average results. That will not get us anywhere.

If an untried sire must be used, one should be sure that he is sound, well bred, true to type, acceptable in conformation, and of sufficient size. If the farmer is doubtful of his ability to pass judgment on the stallions that may be available, he could wisely seek advice from men who are qualified to judge. He should seek the best stallion rather than the one offered at the lowest fee. It is poor business to save $5 to $10 on one end of the colt-raising venture and lose $50 or $60, or more on the other end of it. It is to be regretted that many farmers seem more concerned about the service fee than the merits of the stallion.

The difference between average horses and high-class ones is of such importance that men engaged in the business should not discount their chances for the maximum of attainment by using inferior sires. It is the extra $50 or $60 above the average price and the quality required to fetch the higher price that make the business profitable and attractive.

I am a firm believer in a community or company-owned sire, especially if no really meritorious stallion is available. The many mistakes that have been made in the organization of companies and the purchase of stallions have made this system unpopular, yet there is no reason why a number of business farmers cannot form a company and go about the purchase of a stallion in a businesslike way. I advocate the purchase of second-hand, tried sires where possible. It is not so difficult to find a stallion that has been used a number of years in a community that has proved to be a high-class sire and that may be purchased at a reasonable price. No mistake need be made in this manner of selection. The proof of the pudding is in the eating; the value of a stallion is represented by the colts he leaves. Study the colts even more critically than the stallion. If his colts are above the average in excellence he will be a profitable horse to buy, even though he may be along in years. It is much safer than to buy a stall-fed, over-fat hulk that has nothing to recommend him except beef and a highly colored pedigree. Pedigrees are necessary—stallions must be pure-bred—but performance is essential, too.

If it becomes necessary to purchase from an importing firm or a dealer great care should be exercised. Expert advice and assistance should be obtained by consulting a man who thoroughly knows the game. There are many thoroughly reputable and trustworthy men in the trade, but the selection of a stallion requires expert judgment and even with the best assistance mistakes may be made. Usually our agricultural colleges will give assistance willingly. If reputable firms are dealt with and the utmost care is taken, the results should not be so very bad. Beware of the over-fat stallion. Seek one that is thrifty, but not over-loaded. If a little thin in condition, his true form may be better judged. He will render better service in the stud also, if not too fat. At the same time avoid the hard keeper. If an imported stallion is desired it is as well to inspect him soon after arrival in this country. One will be able to judge of his form and endurance if he can see him soon after the severe strain of a trip across the ocean. Get one with a clean-cut head, well arched neck, a reasonably short back, wide loin, plenty of middle, a long hip, level rump, thick, strong thighs, well-muscled gaskins, clean, wide hocks, flinty bone, well-set pasterns of medium length, and big, tough feet. That conformation is standard. Alertness, docility, spirit, action, robustness, masculinity and other things that the clever horseman will see if the stallion possesses them, and will not see if he does not possess them, are points to be considered. Action is highly important. A straight, springy walk and trot, combined with a gay carriage, round out this horse into a desirable individual. Then if he is of a line of breeding that has proved worth while, if he has a line of ancestors that has made horse history, he is worth considering. W. L. Houser.

Be Safe!

Don't take too many chances with spavin, splint, curb, ringbone, bony growths, swellings and of lameness. Use the *old reliable* remedy—

KENDALL'S Spavin Cure

In the hands of horsemen, veterinarians and farmers for 35 years it has proved its worth in hundreds of thousands of cases.

ST. FERIOLE, Dec. 4th, 1915.

Will you please mail to my address a copy of your *Treatise on the Horse.* I have been using your valuable remedies for some time, and found them *safe* and reliable.

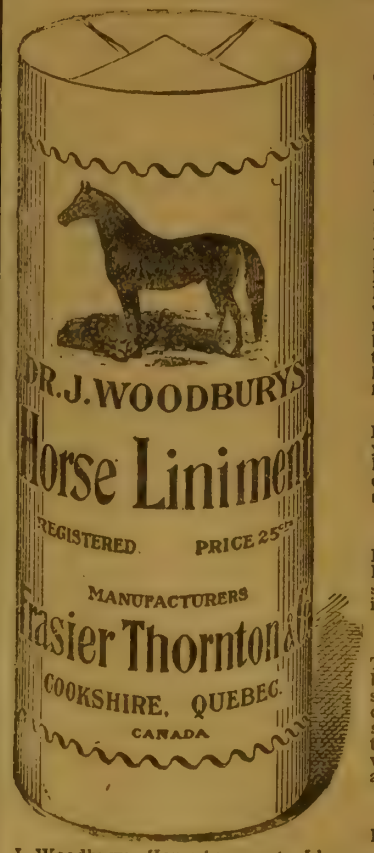
JOSEPH L. BATZINGER.

$1 a bottle—6 for $5, at druggists—or write for copy or our book "Treatise on the Horse" free.

Dr. B. J. KENDALL COMPANY
Enosburg Falls, Vermont, U.S.A. 118

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.

Newton Lee, Owner "All Right" 5817.

Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada

MINARD'S
"KING OF PAIN"
LINIMENT

I was cured of terrible lumbago by
Minard's Liniment
—Rev. Wm. Brown.

I was cured of a bad case of earache by
Minard's Liniment
—Mr. S. Kaulbach.

I was cured of sensitive lungs by
Minard's Liniment
—Mrs. S. Masters

Manufactured by the
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LUMP JAW

For twenty years the only sure cure has been Fleming's Lump Jaw Cure. Use it no matter how old the case. It must cure or we will refund the full price paid. Fleming's Vest Pocket Veterinary Adviser is free.

FLEMING BROS., CHEMISTS
+ CHURCH ST., TORONTO, ONT.

Advertise in the Maritime Farmer.

A Contented Cow
is
A Profitable Cow

ARE your cows contented? Are they profitable? If not, make them so by doing away with your old-time wooden stalls. They gather dirt, harbour disease germs, and prevent the free circulation of life-giving air and sunlight.

LOUDEN'S
Tubular Steel Stable Equipment is easily and quickly installed, and insures cleanliness and ventilation. Its use means comfort for your cows and profits for you.

GET INTERESTED. WRITE TO-DAY.
Our book, "Perfect Barn Equipment," and the service of our architectural department, are free.
LOUDEN MACHINERY CO. OF CANADA, LTD.
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THE CARE OF BROOD MARES HAS AN INFLUENCE ON THE LIFE OF THE YOUNG COLT

Essentially the care of brood mares is not different from that given to other classes of horses. The brood mare, however, represents, at least, two animals, and it is especially owing to this second animal that she becomes of extraordinary importance as compared with the other inmates of a stable.

Pregnancy in itself is a perfectly normal function which in no way interferes with the mare's health. In fact, it may involve a very advantageous influence upon the general well being of the animal body on account of the increased metabolism accompanying it. As a result we commonly see that during the earlier stages of pregnancy the mare shows a better appetite adn lays on flesh more rapidly.

During the first half of pregnancy, the condition of the mare is not different from that of the other horses of the stable, but after that time certain changes manifest themselves, which deserve our consideration.

As Pregnancy Advances

At that time the foetus has already assumed a considerable size and this for some time is still on the increase. The size of the foetus and incidentally that of the uterus is bound to exercise an influence upon certain organs and their functions in a purely mechanical manner.

The abdomen becomes heavy, so that standing and walking becomes less comfortable. The greatly increased uterus encroaches upon the digestive apparatus. The respiratory apparatus, likewise has pressure exerted upon it to the extent, that the animal shows a certain shortness of breath. At the same time, the increased activity of the body's vital processes increase the work of the heart and kidneys.

All those changes are far from being abnormal, even if they should be given full consideration in management. They may even be regarded as safety devices for the unborn colt. The sluggishness of the heavily pregnant mare, as well a sher shortness of breath are excellent factors in the prevention of excessively active movements or mechanical violence, which are apt to produce premature birth.

Provide Feed For Two

When we carefully consider the above mentioned facts and thereby not forget that the pregnant brood represents two animals when it comes to feeding time, the principal feature of her care and management are at once apparent.

In this the accustomed routine must be followed as near as the state of pregnancy permits this. The first question which presents itself here is the one of exercise and work. There can be no doubt that the amount of work performed by a brood mare during the last half of pregnancy must be considerably reduced. In the first place, because of the considerable part of nutritive material which formerly was available for the development of mechanical energy is now being utilized for the upbuilding of the new animal in course of formation.

Requiring a mare of this condition to deliver great amounts of muscular energy, which is, of course, primarily derived form the food, would be equivalent to the starving of the colt.

Working the Mare

The danger of this, however, is self-limited, as the labor efficiency of the heavy mare is already reduced by the size of her abdomen and her comparative shortness of breath. A mare can do a considerable amount of work with impunity, but it should not be forgotten that she must be used sparingly, must not be asked to draw too heavy a load or to go too fast a pace, while her condition as well as the welfare of the colt demand frequent breathing spells.

On the other hand lack of exercise would be as undesirable as too much of it. The body and the proper performance of its functions demand a certain degree of muscular activity and hence when we use our mares with some discretion there can be no objection to them performing their daily work. Many breeders work their mares almost to the time the colt is born and find it an advantage to do so. There is no doubt that such a course is preferable to confining the pregnant mare in a box stall and condemning her to inactivity for several weeks.

When suitable work cannot be found for the brood mare, she should be given the freedom of pasture or paddock.

Proper precautions must be taken to protect the heavy mare against external violence or injury. She must not be crowded into close quarters and certainly not in places where she is liable to be kicked or where she would be especially induced to do so herself. When used on the wagon or other implements, the jostling by the pole must be prevented. Care must be exercisd to prevent falls on slippery or icy roads. When used under the saddle the girt must not be drawn too tight.

Proper Feeding Important

Of great importance is the feeding of the mare. The fullness of her obdomen points toward the advisability of selecting a ration that is not too voluminous. Whatever feed, concentrated or roughage, be given, it must have qualities that count. The feed must be readily digestible and the kind, of whic the digestion is accompanied by considerable gas formation, be better avoided.

The practice of feeding horses only twice a day, which may be quite sufficient for horses not at work, must be condemned for brood mares, as it would require too large a ration at each meal. It is better to divide the food given per day over a greater number of meals. Spoiled or mouldy foodstuffs better be avoided.

While we cannot undertake to prescribe the most suitable ration at this place, we feel safe in saying that hay and oats must be regarded as the principal materials for the feeding of brood mares. A certain amount of corn can be used, while toward the close of the period of pregnancy the addition of wheat bran to the ration is very desirable.

The ration must not be deficient in proteid matters, while such minerals as lime must be present in the food in considerable quantity. In the feeding of the mare, she should not be permitter to fatten. The state of the body, such as we like to see in a horse fit for work is also the desirable one for a brood mare.

To Insure Good Colts

When the mare becomes a little constipated correct this by bran mashes, or a little flaxseed meal in the ration, rather than by the use of medicines.

After harvest get the poultry buildings in shape for winter use. Many farm poultry houses need remodeling, and a few dollars spent in doing this will be returned in extra eggs next fall and winter.

For best results pullets will have to be placed in the laying house early in the fall and not disturbed thereafter, so do not put off repairing their house.

SELDOM SEE
a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

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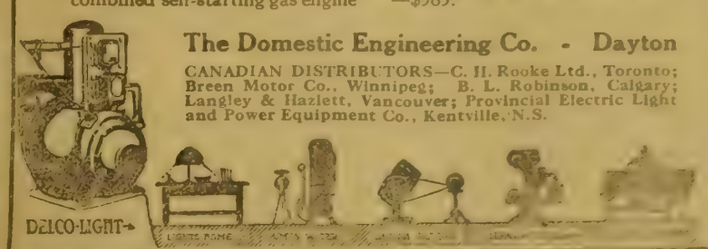

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SWEETENS THE LAND AND PRODUCES HEAVY CROPS

The demand last season for our "Clairmont" Brand Pulverized Limestone was so heavy we were unable to fill a great many orders. We expect a very heavy business for 1918 and would advise all booking now and getting their supply early. Our Limestone is showing wonderful results.

—Manufactured by—

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POULTRY.

CULL THE FLOCK

(Experimental Farms Note)

The urgent need of conservation demands that all poultry not paying its way in either eggs or growth, be killed for eating.

The present high prices of feed also make the keeping of such classes of poultry decidedly unprofitable as well as unpatriotic. Therefore, for your own good and for the good of the country, kill them.

There are in every poultry yard birds that have outlived their usefulness and others that will never pay their way, these might profitably be finished and marketed, not necessarily all at once, but as soon as practicable, taking into account the market, etc.

In these classes might be mentioned, in the order in which they should be disposed of, the following:

1. **Male Birds.**—The breeding season being over, all males should be fleshed and killed. It will cost $2.00 or over to keep each male until next breeding season, therefore, get rid of them, it will also be better for the layers, the eggs and the growing chicks.

2. **Turkeys and Waterfowl.**—Toms and turkey hens, geese and ducks, not absolutely needed for next year's breeding should be disposed of.

3. **Hens.**—All hens of the heavier classes that are 2 years old and over might better be marketed now. In even the light classes many of this age ought to go. Others that are laying but that are not worth keeping for another year, should be kept until the egg yield does not pay for the feed. Better still keep culling out those that show signs of early moulting as you go along.

The best of the one and two-year-olds of the lightest breeds might pay to keep all summer, but only the year-olds should be kept over winter and even these will stand culling fairly closely.

4. **Broilers.**—If broilers are early, it pays best to sell the cockerels when two or three pounds in weight rather than to keep ill heavier. This is especially so when the sexes cannot be separated and where the runs are small, the pullets will soon require all the room and green feed available.

Light breed cockerels should be sold early; it seldom pays to feed them to maturity.

5. **Roasters.**—Don't leave the marketing of all roasters till late in the fall. Distribute this sale over as long a period as possible. Never market without finishing.

CHEAPER POULTRY FEED

On account of the scarcity and high price of feed the Poultry industry of this country is threatened by the prospect of the wholesale slaughter of laying stock and a serious falling off in the number of pullets to be matured.

The necessity for retaining for milling every possible bushel of wheat suitable for that purpose, need not be emphasized. To provide poultrymen with feed for rearing their young stock without unnecessarily lowering the supplies of milling wheat, the federal Department of Agriculture has requested millers throughout Canada to put on the market the cracked and shrunken wheat removed from grain before it is milled.

In addition to small and broken wheat, these cleanings consist chiefly of the seeds of wild buckwheat, a near relative of the cultivated buckwheat. The Poultry Division of the Central Experimental Farm has used wild buckwheat in feeding experiments, and reports it to be a highly satisfactory poultry feed and has ordered two cars of buckwheat screenings for the Central and Branch Experimental Farms from the Canadian Government Elevators at Fort William. Fowls used to good grain do not take to it at first, but when they become accustomed to it, they eat it readily and do well on it.

The mill cleanings from local flour mills also contain traces of many other weed seeds, including several kinds of mustards. These, however, would not as a rule amount to more than two or three per cent. of the cleanings in the case of the standard grades of Western wheat. This material is specially recommended for backyard, suburban and professional poultrymen. On farms the cleanings from yards and poultry houses where it had been fed, would have to be disposed of so as not to disseminate noxious weeds in grain fields.

Those interested in obtaining this class of feed should immediately arrange with local mills or feed dealers for a supply. The mills cannot be expected to keep this material for poultry unless it is demanded for that purpose, and that rests with the poultrymen themselves.

HALF-HATCHES

Mrs. W. S. M., is using one of the popular makes of incubators and does not get more than half a hatch. She wishes to know why chicks in an incubator die in the shell after becoming fully formed and ready to emerge.

If this correspondent averages a chick for every two eggs which she puts in her incubator she does about as well as the average. I have visited poultry plants in the east where hatches of as many as 20,000 eggs were made at one time. I have asked dozens of the incubator operators at the big plants what their average hatches were, and almost invariably they had told me, "About 50 percent." I have used incubators for nearly 30 years, having operated most of the better known ones. I believe that my average hatch has not been higher than a chick for each two eggs. Just lately I had the best hatches I ever had from one of the same make of incubator as this correspondent uses. I had 75 fertile eggs in the machine and got 66 nice chicks. At another time this year, using a well-known standard machine, I got 44 chicks from 140 eggs. From this same machine I once got 105 chicks from 120 eggs, of which I raised 95 to maturity. I use five different incubators and so far this year my average has not been more than 50 percent. A neighbor who is an accomplished incubator operator told me yesterday that her average this year was between 40 and 50 percent.

I do not know why chicks in incubators die in the shell, while eggs from the same flock hatch well under hens. It was once thought that an excess of carbon dioxide in the incubator killed the chicks. Careful tests showed that there is invariably more carbon dioxide under a sitting hen than in an incubator. I have quit theorizing. Even 50 percent hatches in incubators are more profitable than the average hatches made with hens.—Miller Purvis.

A ROUP-INFECTED FLOCK

A subscriber in Colorado keeps Black Minorcas of high quality. A year ago she bought a cockerel which was infested with roup. Now the entire flock is infected. From the description the disease has gone far. The prominent symptoms are cankered mouth, swollen head and charges from the nostrils and dark colored combs and wattles. This correspondent has been working a year to combat the disease and it has grown worse all the time.

The thing that needed doing first was neglected, a common failing in treating poultry diseases. When a fowl in a flock shows symptoms of any disease the proper thing to do is to isolate it, keeping it entirely separated from the remainder of the flock. The second thing to do is thoroughly to disinfect the poultryhouse. Thorough disinfection does not mean spraying a little coaltar derivative here and there in the house. It means cleaning the house by removing every bit of dirt and dust that can be removed by ordinary means. The floor should be cleaned and the walls swept with a broom. Then with a strong solution of any sheep dip or other coaltar disinfectant spray the whole inside of the house until it is dripping wet, using a solution double the strength advised on the container.

In this flock the most severe forms in which roup appears seem to be present. The cankered mouth is fowl diphtheria, the swollen heads denote catarrh and the discharging nostrils indicate true roup. At this stage I feel confident that the disease is beyond control. I watch my fowls for the least symptoms of a discharge at the nostrils. Twice during the past winter I found hens with swollen faces. I noticed this indication of catarrh before the swelling had made any great progress. The first symptom is watery eyes. Immediately I isolated these hens, gave them a dose of coaloil and squirted some into their nostrils and into the slit in the roof of the mouth and painted the swollen side of the face with tincture of iodine. If there had been any canker I should carefully have washed the cankered surface with a saturated solution of copper sulphate (blue vitriol), taking care that none went down the throat. One of these cases got well immediately. The other not yielding to treatment at once, the hen was kill-

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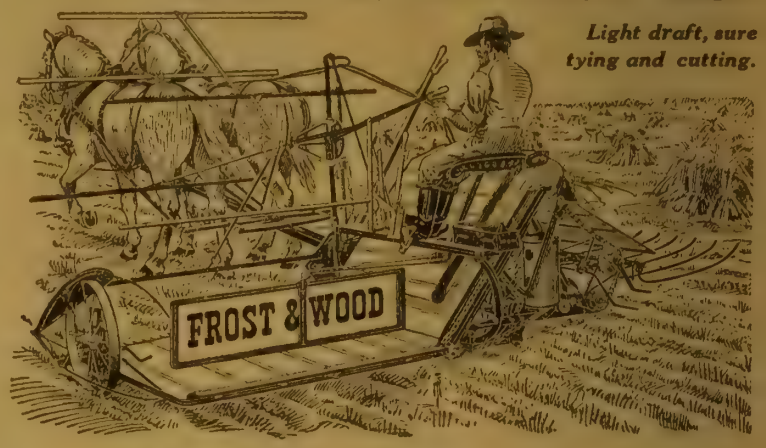
Many binders will cut grain that is standing nice and clean, but for tangled, heavy, rough and tumble cutting you certainly need the strength and light draft of the Frost & Wood Binder.

The Frost & Wood Binder is built of the toughest, strongest, yet lightest materials that money can buy. We use roller-bearings at every friction point, which makes long life and easy work. The elevation can handle any crop, no matter how choked or heavy.

Big power wheel, strong bracing, improved cutter bar construction, and many other good features. You ought to have our new catalogue at once and make a careful study of the Frost & Wood Binder.

Don't take chances with your crop. See our nearest dealer at once, or write us to-day for catalogue.

Handy levers work the reel to any position and bring the grain to the cutters. The Frost & Wood Knotter is very simple, and get-at-able. Needs no adjusting and it won't fail you.



Light draft, sure tying and cutting.

The sheaf compressor and ejector is worked by a smooth-running eccentric sprocket that does its work without jerking or strain. Hardly know it is at work—easy on the binder and the horses!

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Suffered with Kidneys

Could Hardly Sleep.

No woman can be strong and well unless the kidneys are well, for when the kidneys are ill the whole body is ill.

Doan's Kidney Pills are a specific for all kidney troubles. They begin by expelling all the poisonous matter from the kidneys, and then heal the delicate membranes and make their action regular and natural.

Miss A. Parks, East Middle La Have, N.S., writes: "For three years I suffered so with kidney troubles I could hardly sleep at night. I used all sorts of kidney medicine; some helped me for a while; others, which I gave a fair trial, did not help me at all. I was very sallow and had puffing under my eyes. I made up my mind I would try Doan's Kidney Pills, and on taking two boxes I found I was getting better, so I kept on using two more, and to-day I don't know I ever had kidney trouble. I owe all the praise to Doan's Kidney Pills."

"Doan's" are put up in an oblong grey box; the trade mark "The Maple Leaf"; price 50c. per box, at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

ed and burned, as I could not afford to risk infection with so many hens on the place.

A friend of mine who is given to experimenting took several hens that he had cured of bad cases of roup and tested them for egg production. Not one of them ever produced enough eggs to pay for keeping her. He concluded that once a hen has been badly infected with this disease her usefulness is ended. Besides she no doubt would transmit to her progeny a tendency easily to fall victim to the disease. I believe I could have stopped the disease in this flock when it first started. I do not believe that any one can do so now.—Miller Purvis in Breeders' Gazette.

CAUSE OF LOSSES IN YOUNG TURKEYS

For many years those who had reared turkeys have had occasion to consider that the young birds are delicate to rear o naccount of the losses by death before they are seven or eight weeks of age, and as the result of their dying off during this early period there is a popular belief that after they have "shot the red" they can be considered to be safe.

This term is applied to the development of redness in their face, after which the youngsters look much healthier than they do before, and until this has taken place many turkey-rearers regard their birds as unsafe, and with great care fetch them in when it rains so that there may be nothing to retard their progress, but in spite of this numbers have succumbed. For some time we have been investigating this matter, for on account of the large number of young birds which have seen suffering from tuberculosis in an advanced stage, we came to the conclusion that there must be a cause common to each case, for although the birds have been sent in from all parts of England and Ireland, the conditions of their organs have been identical.

It has been quite clear that nothing in the feeding of young stock six and seven weeks of age could have developed tubercular trouble, for there was not the time to do it, so that the cause must be sought apart from the feeding of the youngsters, which had died on account of—

(1) Tuberculous liver.

(2) Tubercular deposits in the intestines, and

(3) Lungs which showed the perforations associated with phthisis.

On investigating the different cases we found that the young birds were not brought up on the same food, for nothing could have been more varied than the diet adopted by the various rearers, and yet the appearance of the youngsters was identical.

We have, through these columns, explained the actions of freshly mixed soft food on the organs of the hens which had this year after year, and when the whole of the energies of the digestive organs are utilised in assimilating foods which require a large amount of digestion, they become overworked, and in course of time the kidneys do not throw off the effete matter as they should, and this leads to the development of the tubercle disease germs, for it is only on impurity that these thrive, so that until poultry-keepers fully realise the necessity of keeping their birds' system free from this they have not grasped the fundamental principle of healthiness for their stock.

It may be suggested that doses of aperient medicine given at regular intervals might be beneficial in the removal of impurity from the system, but while these would partially cleanse the organs they would not remove the cause of the trouble, which can only be done by keeping the liver and kidneys healthily active the whole time, and by taking care to avoid overworking these, for as soon as they have too much to do they become clogged by the excess of urea, which sets up the condition everyone should avoid.

Many readers have adopted our pre-digested system of soft food for their turkeys as for their fowls, principally because it was easier to mix all the food for both classes of stock at one time, and by doing so they have ensured the healthiness of their young turkeys, for there have been no signs of any liver or lung trouble amongst those bred from the stock so fed.

The satisfactory progress of the youngsters is assured only when the parents are perfectly healthy, and unless turkey-breeders are careful to ensure that their are fit to hatch from, they are doing a grat deal of harm to those who purchase sittings from them. As next season's results in rearing young turkeys depend primarily on the condition of the stock birds, we regard it as of vital importance that each one should be put on pre-digested food prepared with the right ingredients now, for we have proved unmistakably that it is possible to entirely eradicate the taint of tuberculosis disease from ordinary hens and from turkey hens, just as it is from stock ducks, by providing food which enables the birds' organs to get rid of all the impurities on which the development of the disease depends.

Looking back over the years we have kept turkeys and the different conditions under which the young birds have been reared, we feel that it is quite possible to put stamina into the flocks by eradicating the taint of disease through their food, for by diverting the energies of their principal organs to promoting vigour instead of having to assimilate every particle of food, this can be built up.

The stock turkeys should have no maize at all, but for the evening feed just the best short oats all the year round, while their morning food should be exactly the same as we advise for the fowls, and they must be liberally fed on this, as they get a great deal of nutriment from this without the exhaustion following the assimilation of the old-fashioned soft food, and while a constant supply of sharp flint grit is necessary all the year round, it is only essential to provide them with ground oyster shells from February until they stop laying, as they need shell-forming material during this period.

We trust that all farmers and owners of turkeys will without delay put their birds on to the pre-digested system of soft food, and so ensure a flock of healthy youngsters for next year.—Mark Lane Express.

CROP-BOUND CHICKS AND CLOVER CHAFF

Some of the poultry breeders may be interested in the experience we have been having with chicks this spring. The trouble began when our chicks were three weeks old. They would droop around, not eat and showed every sign of cholera. I examined one and found something hard in the crop. I tried to crumble it between my thumb and finger, but it was a solid mass. I cut a small hole in the crop and found a large cockle burr. I removed the burr and sewed up the incision. I kept the chick penned for a few days and now we cannot tell it from the rest.

Later on we found many more with the burrs in their crops. Some would pass through and others would lodge in the passageway to the gizzard. The chicks would drink water and it would run from their mouths. They would finally die. Most of those that underwent the operation with the knife lived. The ones that burrs lodged in the esophagus gaped like chickens with gaps.

The chickens got these burrs in the clover chaff which we had been throwing into the colony houses. We had also used some of the chaff for bedding for the horses, and the burrs were hauled out with the manure and placed around the apple trees, where the chickens had access to them. We took rakes and had a general cleaning up, but occasionally a chick will find a burr yet. Many people have told me chicks could not swallow a burr, but these had passed through the clover huller and many of the prickles had been removed.

Probably this account of our experience will help others who have similar losses of chicks.—W. W. H.

TIT-BITS FOR THE POULTRY-KEEPER

Keep every early-hatched pullet for egg production next fall and winter, when eggs will be high.

Late hatching is permissible this year if the late-hatched chicks are used to increase the country's meat supply.

Late-hatched pullets will not make early winter layers unless given exceptionally good care.

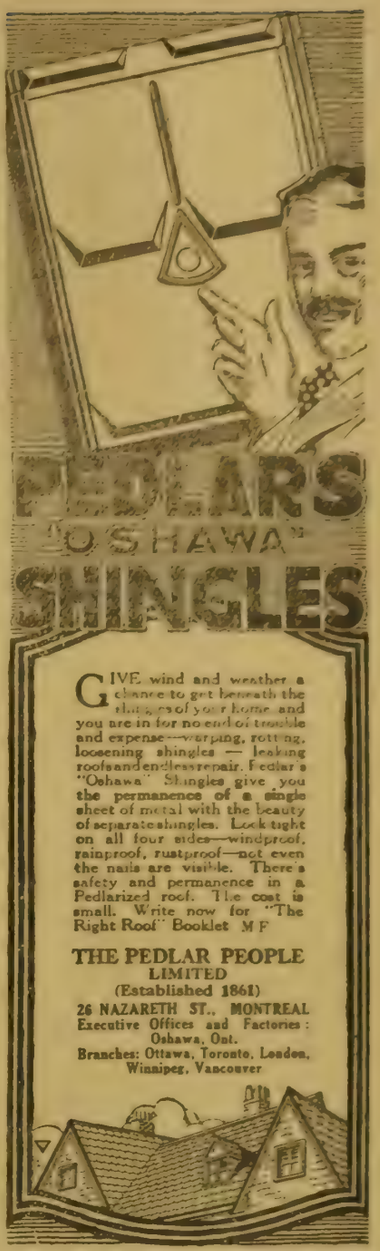
Keep all hens until about September 1. It does not pay to sell laying hens in the spring or early summer, for their eggs are of more value than the few extra cents per pound obtained at this time.

Do not sell early-hatched cockerels as broilers under two or three pounds in weight.

Sell all old roosters, so that every egg produced this summer will be an infertile egg. Doing this one thing will save thousands of dozens of eggs, usually spoiled by hot weather because they are fertile.

Caponize late-hatched cockerels to put on the market next winter, when meat will be scarce.

Take good care of the summer eggs. See that they are gathered daily from clean nests, and kept in a cool, sweet cellar until sold. Sell at least twice a week in hot weather, and insist that they are bought on a quality basis. Know that every egg you sell is a good egg.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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE SONGSTER

"Music, music with throb and swing,
Of a plaintive note, and long;
'Tis a note no human throat could sing
No harp, with its dulcet golden string,—
Nor lute, nor lyre with liquid ring,
Is sweet as the robin's song.

"He sings for love of the season
When the days grow warm and long,
For the beautiful, God-sent reason
That his breast was born for song.

Calling so fresh and clear,
Through the song-sweet days of June,
Warbling there and whistling here,
He swells his voice on the drinking ear,
Of the great, wide, pulsing atmosphere,
Till his music drowns the day.

He sings for love of the season
When the days grow warm and long,
For the beautiful, God-sent reason
That his breast was born for song.

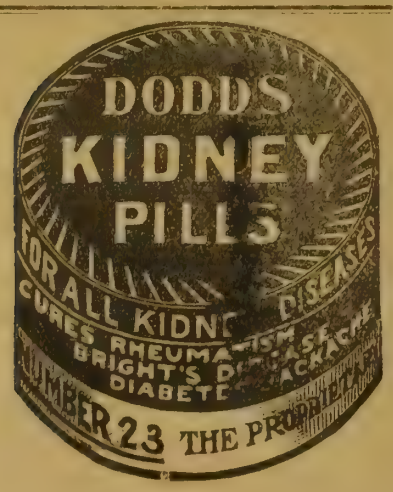
E. Pauline Jhonson.

HOME ECONOMICS
HOUSEHOLD MANAGEMENT AND BUYING ECONOMICALLY

This study has arisen from the desire to cut down household expenses and to get rid of household cares. We know that boarding houses are less expensive sometimes than real homes and by patronizing these the responsibility is shifted and the home loses ground. For most people the home is the beginning and the end of life. All their activities proceed from it and return to it. Therefore, of all the arts those pertaining to home making are the most important and of all the sciences those which find their application in the home, making us intelligent about the home and its needs, are the most significant.

Home making is universal; that is, there are workers of all classes and intelligences engaged in its occupation. But the woman who is the most successful in making a home is in every sense engaged in a learned profession—the greatest one on earth. For she has to initiate, plan, direct and carry out operations which involve in greater or less degree all the sciences and arts known to man. She also deals with those subtle spiritual powers which make or mar his personal happiness and influence his soul's salvation.

Housekeeping should be ranked as a profession instead of a trade. One who works at a trade does an assigned work planned by someone else who resumes the responsibility. A housekeeper is a director of home, she plans the work and looks after the spending of the money. This must be a business and requires qualifications. The woman who considers this work as an opportunity to assist in sharing the responsibilities of the wage earner has grasped the truth concerning the possibilities of her work.



Unfortunate is the home where the practical experience all comes after marriage. It comes at the hardest of periods and is unjust to any man. In no business can failure be graver or the results more serious. The fact that some very efficient housekeepers have evolved from unpromising beginners is no argument, such are without exception, most eager for their daughters to receive training, since they know by dear experience, its value. Our grandmothers, many of them, were beautiful housekeepers and splendid mothers. They learned their lesson in the hard school of experience and with the price of much unnecessary suffering. The young women of today has no excuse for answering "not prepared" when life demands that she assume her place as homemaker. Can anyone feel that this important work should be undertaken at marriage by girls who rely for preparation upon chance occupation at home supplement by the much abused "mother instinct?" There should be no more question as to the need of education and training for the woman who selects the food, clothing, and works of art which minister to the highest welfare of a family, than there is for the need of study on the part of the farmer, manufacturer, or the artist.

Much of the present aversion to household duties would vanish before adequate preparation to preform them. It is very true that when one's knowledge of a subject has passed the stage of drudgery and becomes a science its performance immediately becomes a pleasure. The essential thing for all to learn is to love their work, to see its possibilities as well as its difficulties, and to make their work their servant instead of their master. This can be done by the homemaker as well as by the physician.

Advantage of The Home

From an economic standpoint the instutional way of living is cheaper, but there must be the home, for the individual must be sustained and the Anglo Saxon civilization not degraded.

Independence of character and personal resourcefulness are now needed in the social world and the place for cultivating these is in the home. The life in the home trains for life in the world and leads to consideration of others, suppression of selfishness and stimulation to industry. Our conclusions are that the individual family must be maintained, but in a manner consistent with modern progress. To many the home has become a staying place, storing place or place of drudgery, and enjoyment is sought outside the home. These are wrong conceptions. In the home there must be wise expenditure of money, time and energy. Economics includes the getting and the spending of wealth. Woman is the main spender, or should be, therefore she should understand her work. She must realize that money has a limited purchasing power and she must think of what is necessary, not what is desired. A woman may spend $5.00 and get very little value from her money. The prosperity of a home depends just as much on the spending of the income as the size. Be careful at all times to get the greatest possible value for money spent. It shows lack of professional ability to spend money lavishly, for anyone can do that, but it requires the trained woman to spend money wisely. A study of economics will enable a spender to know where to economize and where to lavish.

Important Factors in Spending Any Income

It is necessary to know what constitutes good food, clothing, furniture, etc. The three most important factors that must be considered in spending any income are food, clothing and shelter. Of course different people have different standards regarding the amount to spend on each.

Food is the most important avenue of expenditure and has a direct influence on each individual. A well nourished person enjoys their work and they add to the general good of the public. Also they are less likely to take disease as the blood is richer in red and white corpuscles that fight against disease.

Correct food habits should be formed in infancy, that is, liking of proper food and not over feeding. There is just as wide a field to prevent sickness as bringing about a cure. The study of foods should give a cure to a large extent.

The amount spent on food does not determine the amount of nutritive value received by the family. One family spent $2.16 on oranges and $3.00 on celery. From this they obtained 150 grams protein and 6445 calories of heat. Another family spent the same amount for cereals and fruits and obtained 375 grams of protein and 184185 calories of heat.

Ways of Wasting Money on Food

By buying more than is necessary of perishable food.

Buying poor materials because they are cheap.

Buying foods out of season, they are very expensive and have not the same flavor or food value and home production is not appreciated when in season, and it teaches people to acquire a craving for foods hard to obtain.

By buying staple things in small amounts when it is cheaper to buy in larger.

Carelessness in keeping supplies after obtained.

Poor cooking, means a loss of food value, the food is less digestible and less attractive.

By carelessly leaving large amounts adhering to dishes.

Serving people more than they can eat.

The need of right buying and right cooking is evident since the body must be kept in repair, making it less susceptible to disease. It is necessary to know the value and understand the composition of our most common foods anyway. The cheapest diet is the one into which cereal grain foods enter most largely, also the cost is greatly increased when shell fish and chicken broilers take the place of dairy products and our ordinary meats.

Outside Preparation

A few points that are worthy of special notice are concerning "outside preparation". The cash expense of supporting a family is greatly increased through the transfer to outside hands of much cooking that was formerly done at home. Take for example, bread making. A barrel of flour 196 lbs. will make on the average 170 loaves of bread. The bread costs the consumer $17.00 whereas the flour can be bought for $7.50 per barrel.

(This statement would be different now owing to the high price of flour.)

Again, using breakfast foods ready for the table instead of the cheaper oatmeal, cornmeal and hominy that were cooked at home. The so called breakfast foods are sold under a steadily increasing variety of names. Now these foods are prepared in a hygienic manner, are not as a rule adulterated and are so thoroughly dried as to keep well, and in general may be considered to be among the very best of foods carrying a high proportion of carbo hydrates. It is the claims that are made for such extensively used materials and the wide differences in their cost, that render it advisable to consider the real facts touching their nutritive value. As the process of manufacture has not rendered these preparations greatly unlike, the cereal grains from which they have their source, except in some of them to dextrinize part of the starch, we must look to their digestibility for any increased nutritive efficiency which they may possess. The most reliable figures available do not show that breakfast foods differ essentially in digestibility from cereal flours and meals and certain home made preparations. In fact the digestibility of breakfast foods is proved to be in no way superior to that of granulated corn meal, oatmeal, or any of our home cooked cereals.

It is clear that the claims made for certain breakfast foods such as "the nourishing of more persons for a given time than other foods do" "The most natural food for mankind," "the great brain and muscle food," "the system will absorb a greater amount of nourishment from 1 lb. than from 10 lbs. of meat, wheat, oats or bread," are false, and the manufacturers making these claims either intend to deceive the public or are ignorant of the real nutritive value of their produce. The fact is it is not possible to so transform the nutrients in cereal grains or in meats as to materially enhance their nutritive efficiency, nor can such foods be "condensed" excepting as water is dried out. Cooking and malting may increase slightly the ease and rapidity of digestion, but for persons normal in health and function, there is nothing in the process applied to breakfast foods superior in any respect to home cooking.

It may be argued that cooked food is cheaper than hired help and is even a necessity where help cannot be obtained. Certainly the groceryman and the baker contribute to the ease and comfort of housekeeping,

but these surveyors of prepared food must be paid for their services, and heavy cash payments are in this way substituted for home labor. Many families do not realize how much is paid for the preparation and distribution of food before it comes into the house. One remedy is to buy more largely from the producer, the other remedy is home preparation of foods when reasonably possible.

Store Rooms.

Now a large proportion of homes have storage places where it is possible to hold flour, sugar, vegetables and fruits in good condition. When this is the case families may safely arrange to buy directly from the producer in barrels or bushel lots, a winter's supply of potatoes, apples, beets, etc. Flour should be bought by the barrel. Canned goods are cheaper by the case than when sold in packages, and any supplies are cheaper bought in bulk as you do not have to pay for the package and for the extra time spent in putting it up. The consumer is the one who pays this tax. Several families may unite to great advantage in buying supplies. No money can be invested at a higher rate of interest than by purchasing food material in considerable bulk.

Another important question in home economics is the planning of the house so that time and strength may be saved. It is said of the people of this continent that they spend too much on bric brac and too little time on keeping it clean. It is always unwise to have a great deal of fancy woodwork in a house (even with hired help). Plain surfaces are much more easily kept clean. The kitchen is perhaps the most important room as it is the work room of the house, it should be well lighted and ventilated. The day for large kitchens has passed and the modern up to date kitchen is small with all the working apparatus very compact. The more compact the working apparatus the more easily the work is done. A few extra steps count up very quickly in a day and thus unnecessary strength is expended. The pantry should be adjoining the kitchen and it is very convenient to have the pantry between the dining room and kitchen. Swinging doors are convenient, but do not have doors that require pushing to open. A swinging door should swing easily. A door that requires pushing, a sink that is too low, a low chair instead of a high stool, walking up steps to go from one room to another, any unhandy arrangements in the house help to weary and break down a woman more than we realize.

No one can make hard and fast rules for others, and though there are general rules of thrift and economy that apply to any household, each family has its own problems, its likes and dislikes and conditions as varied as their tastes. Needless to say it takes experience to manage a house economically.

The department of household economy which can be applied most nearly to all is the care of clothing, table and bed linen. If the housewife realizes the value of "the stitch in time which saves nine," she will save many dollars also. Months have been added to the wear of every piece of household linen as well as wearing apparel by prompt darning of thin places as soon as discovered. Even bath towels last many weeks longer, after five minutes on the sewing machine has strengthened the weak places. Given suitable thread and a little care, anything may be easily, quickly and neatly darned.

Most women understand that the things that are really extravagant are the things they can easily do without, as over ornamentation of the home or person and expensive entertainments. These can be left to those who have larg means or who have not learned that real happiness cometh not that way.

The most comfortable home one can afford, books for entertainment and help in mental growth, the refining influence of music, whatever help is needed to conserve the housewifes strength for things of greater moment—all these seem necessary to the higher standard to which we all have a right and the privilege to aspire.

THE WOODSTOCK WOMEN'S INSTITUTE

The last meeting of the Women's Institute of Woodstock for the year was held Wednesday, June 27th.

Roll call consisted of helpful and economical hints. One member spoke of a patriotic society in the United States collecting old rubber tires. The proceeds were used to keep their hospitals at the front supplied with hot water bottles.

The President, Mrs. Ellis and also the Secretary-Treasurer, Mrs. King, were elected for another term of office. Ms. Ellis expressed rgret that so little had been done and hoped for the coming year we might see greater results.

Mrs. King's report was very satisfactory and comprehensife. Eight regular meetings have been held and one special meeting.

During the year money had been raised and expended for various purposes. The Boy Scouts had been enabled to buy a tent. Yarn had been bought and socks contributed to the Red Cross and Soldiers' Comforts.

A letter was read from Miss Winter along the line of economy.

Rev. W. C. Kierstead of Fredericton gave a very interesting talk on Social Reform. He pointed out the responsibility of women in preventing the spread of disease. There were seven thousand more deaths in Canada from typhoid, whooping-cough, tuberculosis and measles in one year than occurred in the expeditionary force in the same length of time. The authorities ni Great Britain had cut down the death rate sixty per cent among children, in one year. The Board of Trade anti-toxin can be obtained very much cheaper than the ordinary anti-toxin. This in the province of Ontario is provided free.

The speaker called our attention to the condition of the prisoners in our own jail and lock up and bade us get interested in our own conditions and see what other are doing.

In Fredericton a great work is being done looking after neglected homes and the families therein.

DAINTY TEA GOWNS

The feminine eye cannot fail to be attracted to the dainty new tea gowns and boudoir gowns, which were never more lovely than they are this season. There is a distinct revival of the essntially feminine, daintily tinted boudoir gowns of flesh colored georgette crepe or crepe de chine combined with a coatee of wide, sheer lace flouncing. Occasionally georgette crepe is used beneath the flouncing to give the coatee a little more stability.

WHEN A DRAWER STICKS

If a drawer sticks, rubbing the bearing parts with a cake of laundry soap will usually overcome the difficulty. The saem treatment applied to the slides of extension tables now and then will work wonders. When reed furniture becomes soiled, it can be made to look like new if thoroughly brushed with a dry, stiff scrub brush and given a coat of dark golden oak varnish.

No one has ever been able to explain why bald headed men have their hair cut oftener than other men.

Ripe Cherries

and

Lantic Sugar

"Pure and Uncolored"

make delicious and economical preserves

In 10, 20 and 100-lb. sacks, 2 and 5-pound cartons

PRESERVING LABELS FREE Send red ball trade-mark for book of 54 printed gummed labels to

Atlantic Sugar Refineries Limited

Power Bldg., Montreal

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Now a

Fine, Bonny Little Boy

Penetang (Ontario) Child, Once so Thin and Delicate, Cured by Dr. Cassell's Tablets.

MRS. JARVIS, BOX 286, PENETANG, P.O., ONTARIO, says: "It is a pleasure to write and tell you what Dr. Cassell's Tablets have done for my baby. When only five months old he was taken ill. I had medical advice for him, and was told he had colic, for which he was treated, but he did not get any better, only worse. I tried several special foods, but none of them would stay on his stomach, and he became so thin that he seemed just skin and bone. He only weighed ten pounds. We never thought poor baby could live, but one day I chanced to hear of a baby's case almost like mine, that had been cured by Dr. Cassell's Tablets, so I got some for my baby, and I am thankful I did. After a few doses the nervous jumps he had suffered from stopped, and soon he was almost well. I have given him the Tablets during teething, and find them very soothing. He is a bonny boy now, quite cured, and weighs twenty-five pounds at twelve months old."

Baby Jarvis.

Every mother should know that Dr. Cassell's Tablets are just as suitable for children as they are for grown-up people. Their splendid nutritive and vitalising properties soon overcome any tendency to nervousness or weakness in the little ones, and lay the foundation of a strong constitution for after years.

Dr. Cassell's Tablets

FREE SAMPLE.

On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10 McCaul-street, Toronto

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of Life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 35 cents; six tubes for the price of five. War tax, 2 cents per tube extra

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorchester, N. B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B.

Ayrshire Cattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Jersey Bull Calf

We have for sale a pure bred Jersey Bull Calf, 3 months old, out of Grandiflora's Kathleen (imported), whose dam was by the noted bull, Flying Fox's Victor and sired by a son of Foxhall St. John O'Dreamwold, whose dam gave over 10,000 lbs. milk in a year.

Price $25.00

ORCHARD HILL FARM,
BROWN'S FLATS, N. B.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

SEAMAN and STEWART OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

BARGAINS !

I will sell, after 5th of June, all my breeding Hens (about 100), 20 Roosters and 200 eight-weeks'-old Cockerels. Prices:
Hens, 75c each. Roosters, $1.00 each.
Cockerels, 30c each.
ERNEST CRAZE,
Rosewarne Poultry Farm. Port Williams, N. S

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm

Offers for Sale :

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.
W. L. ETTER, - Shubenacadie, N. S.

FOR SALE !

A good harness shop and business with a lot of land 30x50; also a four acre farm with a 12 room house, heated by steam and lighted with electric lights, all within five minutes walk from the station. For particulars and price write
W. H. HENRY,
Shubenacadie - - N. S.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The address must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue, which will always be found on the editorial page of the proceeding issie. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

FOR SALE—Pure bred registered red Shorthorn Bull, Parkhurst Boy No. 101226, calved June 11th, 1915; milking strain; excellent individual; nice disposition from line of first rate performers. For further information apply to W. E. READ, Bear River, N. S.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.
P. R. L. FAIRWEATHER. St. John, N. B.

BULL CALF FOR SALE !
Born June 7th

Grandson of schurley Sir Posch with 21 pound bucking more white than black. A dandy at $45 F. O. B. any station in N. B. with papers.
WALTER PAYNE.
Lake Edward, N. B.

THE FOURTH SPRAY

(Continued from page 591)

ate of lead remained in suspension longer than any other poison used with Bordeaux.

In regard to lime, the fresher and cleaner the stone lime the better are the results.

For those not inclined to go to the trouble of slaking lime, the commercial hydrated lime is a convenient and satisfactory substitute. It is sold in powdered form and can be stored for weeks in the air without deterioration. For the greatest speed and ease in making Bordeaux we would recommend the following formula:—

In a cask or tank dissolve 1 lb. of copper sulphate to each gallon of water the tank contains. This is the stock solution and it may be made up several days in advance of spraying.

Seven gallons of stock solution should be placed in the spray tank for each 100 gallons capacity. The tank should then be filled up and 1 lb. or more, of hydrated lime added for each gallon of stock copper sulphate solution contained, the solution being rapidly agitated as the lime is being added. **All Bordeaux should be tested with litmus paper before being applid.** If the paper turns blue on being applied to the solution the mixture is right, if not add more lime until it does turn blue. Add the poison and the spray is ready to go on the trees.

We anticipate a slight amount of russetting this year from this spray. The longer the spray can be deferred the less russetting will result. After the down has fallen from the young apples there is practically no donger from russetting.

In case weather conditions are bad or one is anxious to avoid the slightest trace of russetting, lime and sulphur may be applied at about 1 gallon of concentrate to 75 gallons of water following this in a week or ten days with the Bordeaux according to the calendar.

For those inclined to experiment one or two tanks of the Thomsen-Buchanan Bordeaux, consisting of four pounds of bluestone and twenty pounds of lime to 100 gallons seems promising. Recent investigations in France also go to prove that a great excess of lime makes the full amount of bluestone unnecessary and makes a Bordeaux that is infinitely more lasting as well as safer on the foliage and fruit. The Thomsen-Beuchanan Bordeaux used throughout the season of 1916 resulted in the best crop of fruit produced in Nova Scotia during that season, what it will do in an adverse season remains to be seen.

Tile drainage is another way of deepening the soil and increasing the pasture ground of the feeding roots of the crop.

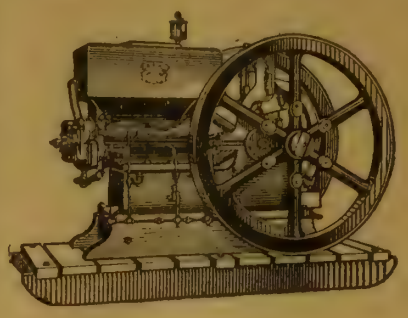
If it's in the line of progress, nothing can stop it, though many things may delay.

Exercise is as essential to the health and breeding quality of an animal as cultivation is to the growth of a paying crop.

Brantford Gasoline and Oil Engines

Stationary, Mounted and Traction

We manufacture the most complete line of Engines on the market. Send for Catalogues.



A
Brantford
Engine
is the best that money can buy.

We manuracture complete lines of

Wind Mills, Grain Grinders, Steel Pole and Wood Saw Frames, Pumps, Tanks, Water Boxes, Concrete Mixers, etc.

Agents Wanted in Unrepresented Territory

GOOLD, SHAPELY & MUIR CO., LTD., BRANTFORD, ONT.
A. McCAUSLAND, Victoria Hotel, St. John, N. B., Maritime Representative

R. O. P. HOLSTEINS !

Two Bulls fit for service, sired by the "Champion" Holstein Bull of the Maritime Provinces. Dam of one gave over 11,000 milk and 500 butter in a year at 2 years old and the other is full brother to a 4-year-old show cow that made 468 lbs. milk and 20 lbs. butter in a week in R. O. M. and is now finishing a R. O. M. yearly record of over 16,000 milk and 700 butter at 4 years old. For full information and price write

W. M. LEA,
"Riverside Farm," - Victoria, P. E. I.

FURNACE TIME ?

Well, it's admittedly the best and most convenient time to have a furnace installed. When you're considering the matter be good enough to remember that unsurpassed Wood Furnaces are MADE IN FREDERICTON by

THE SMITH FOUNDRY CO., LIMITED,
FREDERICTON, - - - N. B.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, AUGUST 7, 1917. Number 21.

Matters of Interest to Maritime Farmer Readers.

THE HUSBANDMAN AND NATIONAL SAVING

An urgent appeal to the people of Canada has been issued by the Prime Minister for assistance and cooperation in securing the harvest, that no portion of it may be lost.

This appeal is timely, and while directed mainly to the securing of Canada's grain harvest, we of the Maritime Provinces must answer also the appeal to save and put to its best use all that has been produced.

Special attention should be given to the securing of a sufficient quantity of seed stock for the next year's crop, for under the continued stress of a greater production policy, an abnormal demand is occasioned for greater quantities of seed.

Seed of very inferior grade was used in large quantities during the past season, and to avert a repitition of the wastage and annoyance incurred, the crop producer should do his utmost to the secuirng of adequate seed supplies of his own growing.

The reserve seed supply of many staples is exhausted. Importations from Europe of vegetable and field root-seeds have virtually ceased, while with a continued campaign for greater production in Canada and across the border, it is anticipated that Canadian and Americn Seed Houses will have difficulty in furnishing an adequate supply of high grade stock. Farmers are advised in consequence to depend mainly upon local production.

Canadian Seedsmen are already looking to Maritime Canada to furnish a portion of the field root seeds required for Canada's root crop, and if our farmers would appreciate the advantages to them which the present situation of the seed trade offers, a profitable industry would be developed. For instance, the production of turnip seed. This crop has been grown in a small way for several years past quite successfully, and growers in Nova Scotia have developed a considerable trade in this particular class of seed.

In commercial root-seed growing the immature roots are used to produce the seed crop, and these are produced from seed sown late in the summer so that roots rarely exceeding three inches in diameter are produced. By this method a greater supply of seed plants can be secured at lower cost, than when large or stock roots are used. Of course, the young root shows neither its good qualities nor its weak points to the same extent as a full grown root, yet its usefulness as a seed producer is not impaired.

When harvesting these young roots "stecklings" so called, those which are deformed or having more than one neck are discarded; the tops cut off about an inch above the neck and stored in a cool cellar or pitted, where conditions are favorable, good drainage of the pit being one of the essentials.

Prompt Action Solicited

These roots are set out the following spring in rows made by drawing out a shallow furrow and planted about eighteen or twenty inches apart, in the row, and the furrows three feet apart. The soil should be rich, well drained and if possible, sheltered from heavy winds. Acid phosphate should be used freely as a fertilizer.

The roots should be planted firmly, and be set so deep that the crown barely reaches the surface, then when the furrow is thrown back they should be well tramped in, just so the crown reaches the surface of the ground.

The seed-yield secured by local growers, ranges in the vicinity of one thousand pounds to the acre, frequently exceeding this.

The Dominion Subvention on Home Grown Turnip Seed has been increased this year to fifteen cents per pound, and Seedsmen are placing contracts at thirty-five cents per pound, which with the subvention, nets the grower fifty cents per pound. An estimate of five hundred dollars per acre is thus given as the value of the acre yield.

An opportunity is here afforded the resourceful grower to engage in a new and profitable industry. Growers have for so long depended upon outside seed supplies that the production of root seed is a new phase of Agricultural practice, but so many changes and adjustments have become necessary in our Agricultural practices and industrial usages to meet the exigneces of war time, that we are learning dependence in our own resourcefulness, and if our production of food supplies is to be maintained, then crop producers must adopt this new phase in national saving and save seed supplies sufficient for their needs.

Never before has such an opportunity been afforded for the production of garden seed, yet unless amateur gardeners anticipate the next cropping year, their harvesting season will have passed and the saving of their seed supply will be overlooked. The first fruits of the garden should be allowed to ripen for seed, by this method the quickest growing plants are secured, and the tendency to acclimatization in our garden plants thereby assisted.

To facilitate the sale and exchange of seed grain among farmers and Agricultural Societies, the Department of Agriculture will maintain a Directory of the names of local seed growers. The Department is ready to assist in the formation of seed centres that the benefit of the cooperative idea in the production and marketing of seed stock may accrue to a community.

The individual grower has difficulty in working up a large and satisfactory trade, whereas working in cooperation with many others of the problems by which he is confronted cease. No community has ever made a success of any business or in any farming operation when all of its individuals attempt to produce a different line or type of product. A community makes a success and a reputation for its goods, because its members know how to produce goods of equal quality and uniform type such as the market world knows and recognizes as of value. The whole community is thereby benefitted, for the market looks to that community for that staple product.

With proper administration and management, the seed centre, no matter how far from the market, will find that unity in its efforts of production and marketing of seed stock, will bring the members better prices for their product and reduce the cost of putting their product upon the market. These features have been attained by different seed centres throughout the various provinces during the past few years, and as a result of their activities, "production more than usual" has been greatly aided.

The establishment of seed centres for the production of improved types of staple crops grown in this province, will quickly accomplish these objects, and in consequence increase the amount of exportable food products.

There is an urgent demand for more growers of seed stock, that we be not confronted in the near future with that dread of the husbandman, a barren harvest due to a scant seed supply.

Waste of time, opportunity, labor or food is sin. Let not our sins find us out in the matter of failing to ensure our future harvest, through failure to save an adequate supply of seed.

A thoughtful reflection upon these facts will make clear to the seed grower his vital part in the scheme for National Saving and his duty to the Empire as a food producer, by securing from his own fields the seed supplies of which the country will soon be in (such dire) need.

O. C. HICKS,
Dept. of Agriculture,
Fredericton, N. B.

NOTICE TO THE LIVESTOCK BREEDERS OF NEW BRUNSWICK

The demand for all classes of pure bred stock in New Brunswick is so great that it is doubtful if our local breeders can fill the orders that are pouring in to the Livestock Branch of the Department of Agriculture. Some time ago we forwarded a circular letter to each of the breeders in the Province, asking him to report the number of stock he had for sale. The response on the whole was very good, and to those men who forwarded a statement we have been able to direct a number of purchasers to them. However, the demand for stock is greater than the supply and the Department of Agriculture may have to make an importation from one of the other provinces.

The Minister of Agriculture, Hon. J. F. Tweeddale, insists that we exhaust our own local supply before making an importation. This he considers the best way to encourage local breeders.

To those men who have not yet forwarded a statement of their available stock to the Department of Agriculture, we ask you to do so now.

In parenthesis, it might be said that this is not an opportunity to dispose of any cull stock that may have been accumulating. The real purpose is to help farmers secure genuine breeding stock from New Brunswick breeders.

Breeders who have surplus stock of good quality for sale, will find it to their advantage to advertise.

SHEEP BREEDING IN NEW BRUNSWICK

New Brunswick farmers are beginning to appreciate the possibilities existing in this Province for sheep breeding. Hundreds of inquiries are being received at the Live Stock Branch of the Department of Agriculture for information on this subject. Very many of these men contemplate making a start this fall, and very many of them in starting are laying their foundation with pure bred stock. This is as it should be. Start small but start right. Some may not be able to buy anything but a pure bred ram and some common ewes. This means that the ram must be a good one or else the lambs will suffer. A sturdy blocky, active masculine ram means a good bunch of hearty lambs next spring.

To those men who are engaging in this busines for the first time, as well as those who are about to go into the business on a larger scale, we wish to state that the Department of Agriculture is at your service. We will be pleased to aid you in any way possible. The beginner should start in a small way unless he has had previous experience. Sheep seldom do well on low, wet land. Unless you have a dry upland pasture you will have trouble sooner or later. Select the same breed as your neighbor. Do not select a new breed, because you will have to be continually importing rams, but if you have the same breed as your neighbor you can "swap" rams. This is the cheaper way. Our local supply of pure bred rams and ewes is being rapidly exhausted. If you have not already purchased, you had better book your order soon. Deal with reliable people and whenever possible made a personal selection.

HAY INSPECTION

According to legislation recently passed, at Ottawa, the following grades of hay will be recognized in the Maritime Provinces:

(a) Prime Timothy shall be pure timothy, perfect in colour, sound and well cured;

(b) No. 1 Timothy shall be timothy with not more than one-eighth of clover or other tame grasses mixed, of good colour, sound and well cured;

(c) No. 2 Timothy shall be timothy with not more than one-third of clover or other tame grasses mixed, of good colour, sund and well cured;

(d) No. 3 Timothy shall consist of at least fifty per cent. of timothy and the balance of clover or other tame grasses mixed, of fair colour, sound and well cured;

(e) No. 1 Clover shall be clover with not more than one-quarter of timothy or other tame grasses mixed, of good colour and well cured;

(f) No. 2 Clover shall be clover with not more than one-suarter of timothy or other tame grasses mixed, of fair colour, sound and well cured;

(g) Mixed Hay shall be hay which does not come under the description of timothy or clover, and which is in good condition, of good colour, sound and well cured;

(h) No Grade shall include all kinds of hay badly cured, stained or out of condition;

(i. Shipping Grade shall be hay in good condition, pressed, sound and well cured.

The No Grade or Rejected Hay are as follows:

(a) No Grade Hay shall include all hay that is damp or otherwise unfit for storage, and shall be entered in the Inspecting Officer's books as "No Grade", with a note as to its quality and condition.

(b) Rejected Hay shall consist of hay containing fox tail or spear grass, or hay heated or containing must or mould or otherwise damaged, and shall include all hay not good enough for other grades.

All inspecting officers shall where necessary enter in their books detailed reasons for grading every bale of hay.

The wire to be used in baling hay shall be number fourteen standard gauge annealed steel wire.

All Inspectors must take note of the condition of the fastenings of the bales, and all scales used for pressers must be inspected, at least, once every year.

A license fee of $1.00 will be charged every one who presses hay for sale or exportation. Such license can be had from the Minister of Trade and Commerce.

On every bale of hay sold a metal tag must be attached, having the license number of the presser, the weight of the bale and the month and year in which such bale was pressed.

All importers of hay in bales disposing of such in less than carload lots, must attach a tag on every bale, giving the name and address of the importer, and the weight of the bale.

All hay imported into Canada shall be inspected and graded according to recent legislation.

Where inspection is necessary, railway companies must where practicable, facilitate this work by placing the cars on sidings or where proper facilities are arranged.

Any person who presses hay for sale without securing the necessary license, shall be liable to a fine of twenty-five dollars for a first offence, and for each subsequent offense a fine of fifty dollars.

Any person who puts any foreign matter into any bale of hay intended for sale, which improperly increases its weight or prejudically affects the quality of the hay shall be liable to a fine of twenty-five dollars for a first offence, and for each subsequent offence to a fine of fifty dollars.

Any person who marks or stamps upon any tag attached to any bale of hay a wrong weight shall be liable to a fine of twenty-five dollars for a first offence, and for each subsequent offence to a fine of fifty dollars.

CAN YOUR HENS FOR WINTER USE

"Canned chicken" may be made at home in your own kitchen out of the old hens that ought to be killed anyway.

The method for operation for what is known as "Straight Pack" by the trade is very simple and is given in detail as follows by Dr. Robt. Barnes, Chief of the Meat and Canned Foods Division Health of Animals Branch, Department of Agriculture, Ottawa.

Clean and cut up the chicken.

Sort out the fleshy portions, such as the legs, thighs and breast.

Break off the protruding portions of the bones in each piece.

Pack these fleshy portions in a gem jar or other container, as closely as possible.

Add salt and pepper. (About a teaspoonful of salt and ⅛ teaspoonful of pepper.)

Fill to within ¾ inch of overflowing with the liquid that comes from the balance of the chicken, process for preparing which is given below.

Place in boiler or other vessel containing warm water and gradually bring to a boil.

For pint jars boil 2¼ hours.

For quart jars boil 3½ hours.

For the balance of the chicken.

Place in kettle and boil till the meat will strip free from the bones.

Strip off all meat and pack in jar.

Pour thereon the balance of the liquid in the kettle that has not been used in the first jar. If there is not enough liquid to fill the second jar, add water. Place in boiler as above, and boil as follows.

For pint jars 1¼ hours.

For quarts 2¼ hours.

If desired, the whole of the chicken may be prepared the same as the last part.

In all cases take care not to expose the gem jars to a sudden change of temperature. Also, after the jars have cooled off, examine the tops to see that the covers are air-tight.

During the cooking of the product, place the glass tops on the sealers but do not fasten them. Any steam or gas which may be generated will escape. As soon, however, as the process is finished, fasten the tops securely.

While describing the method of canning, something should be said about the poultry to be canned.

What is preferred are good, plump fowls, with a fair proportion of chickens, the bones of the latter giving a firmer jelly and lessening the danger of a soupy or slushy product. As a precaution against this condition, where the pack is straight fowl, gelatine may be, and often is used.

So much has been said and written about the prouer methods of starving, bleeding and plucking poultry for market that is is useless to go over them again. One can only emphasize the necessity of exactness in carrying out the accepted principles in connection with these points, which are just as applicable to poultry to be canned as they are to those intended for the market.

There is another point which is important, although possibly its carrying out may detract from the appearance and affect the sale to an inexperienced buyer, namely, that all poultry intended for food, canned or otherwise, after being properly starved, bled and plucked, should be left undrawn and kept in a suitable temperature for a day or two in order that the chemical changes which follow the killing of the bird may have an opportunity to take place.

CO-OPERATIVE BUYING

Editor Farmer:

The question as to whether or not it pays the farmer (producing milk at factory prices), to purchase mill feeds, has always been a lively matter of debate, particularly since feeds have advanced so much in price.

To my mind this will always depend on the proportionate price of feeds, to milk and the kinds or cows fed, and the skill of the feeder, but in a province where the soil is light and on farms where fertilizers are purchased, I think it will always pay the farmer to use considerable quantity of concentrates. If one ton of oil cake and cotton seed meal fed on the farm is worth eighteen or twenty dollars, (as analysts of note claim it is), and mill feeds of more than half that richness, then if we have been in the habit of purchasing commercial fertilizers and find they pay, why would it not be good business to buy mill feeds even if we only made the extra cost of them out of the milk. In fact, I cannot see why it would not pay us to use this feed, even if we did not always get the full cost in return in the extra flow of milk. If we lost $100 feeding meal for the sake of the fertility gained, we would be no worse off than if we purchased $100 worth of commercial fertilizers. In either case we would spent $100 for manure.

However, I don't think it is necessary to lose money feeding meal, as any good fresh cow will pay a fair margin of profit even at present prices, and young growing stock of all kinds, particularly hogs, can be given considerable, if carefully fed.

Four lbs. clean grain will make one lb. of pork if fed in conjunction with a little milk, and hogs worth fifteen cents on the hoof will make more rapid and cheaper gain if given a little middlings and oil meal with either skim milk or whey, on a grass run or fed some other green feed.

It is never economical for farmers who have considerable milk or whey to do with little or no grain. All experiments have gone to prove that the smaller the quantity of milk fed a growing hog down to 8 or 10 lbs. a day, the more valuable the milk proved, and even at present prices of mill feed, no farmer can afford to depend altogether on milk and grass for his hogs. However, I am not in this article going to discuss the question so much as to whether it pays to use meal, as to how the feeders should aim to buy it. This is the important point. Mill feeds are subject to as many variations in price as any other food product, and the question of its profitable use depends largely on the method of purchase, and I was pleased to note some time ago, that the Maritime Farmer was offering to assist dairymen in their purchase. Also to learn recently that they were taking the matter up with any creameries or other farmers' organizations, and at once placed my order with our creamery.

This is the first real co-operative buying we have attempted, and I trust dairymen all over the provinces will take a hold of the matter. Large orders mean low prices, and when any concern in touch with the millers is offering to do this work for practically nothing, the very least we should do is to give them a chance to do our buying for us. Last year most of us paid from fifty to one hundred per cent. more for mill feeds than we might, had we bought earlier. This year mill feeds may not go any lower, but in any event we stand to gain by placing our order as early as possible. The objection that some make against ordering any quantity, unless prices are first quoted, is unreasonable, as it would be impossible for any Company to have time to send offers to each individual or organization and wait for a reply, before replying to an offer, as very often the time is too limited and we have to take a little risk at any rate. But the chances of our getting feed at the best price from a business concern that could give very large orders at net price, seems to be to be much better than for each buyer to fish for himself. The wholesale and retail dealers are not working for advertising purposes, and will follow the market quite as rapidly as it advances. It is the greatest folly to be buying in little drib drabs and paying so much more for it every year. Most of us are short towards spring and have cause to regret not making wiser provision. So let us anicipate our real needs and give the Farmer an opportunity to do business for us.

A. W. LEA.

DAIRY FARMING OFFERS GREATEST RETURNS POSSIBLE

At the present time there seems to be a tendency on the part of some to boost the beef-raising industry at the expense of dairying. While it would not be wise nor just to do or say anything against the interests of the former, it would be equally wrong and opposed to the welfare of the public at large to underestimate the importance of the latter. Both of these industries are useful and each should work out its own destiny without interference or harsh criticism on the part of the other. If on the one hand there are localities where the beef breeds have always been the favorite and the residents have been able to make good in this branch of their farming operations, it is equally true, on the other hand that the dairy cow has demonstrated the fact that in other localities she is able to out-class all other farm animals as a profitable investment for the progressixe farmer.

It is now about fifty years since this industry took on a co-operative aspect, and down through the intervening years since that time, it has made steady and satisfactory progress until to-day the value of the milch cow, according to statistics from Bureau of Industries, is greater than that of all other cattle combined.

This business was introduced at a time when there was great need of an extension of the animal industry. Farmers who had depended on grain growing and selling the product in its raw state, soon began to find that the yields of their fields was steadily decreasing year after year, the outlook for continued profitable agricultural conditions was not encouraging, and no solution of the problem was in sight. At this juncture Harvey Farrington, the pioneer of the co-operative system of handling milk and the cheese factory system in Canada erected a factory near the vollage of Norwich in Oxford County. The formers in this vicinity soon found that they could keep ten or fifteen cows on one hundred acres of land and still grow as much grain for market as before; with the result that dairying was soon hailed as the salvation of the farming business in that section. The success attending the efforts of these pioneers was soon heralded abroad and other sections joined the ranks also. About this time the Dairymen's Association of Western Ontario was organized and largely as a result of its influence better methods of manufacture were adopted and a more uniform article for the export trade which had rapidly been secured, was produced. From this small beginning it spread over the province and the east and has become one of the leading industries of the country. Still later on in the history of dairying, butter making was taken up. The factories had been lying idle through the winter and this product was a burden on the farm home. Hence the co-operative principle was adopted in connection with this article also. Winter dairying was encouraged and as a result the milking herd has been a source of revenue all the year round. Still later the milk condenseries have been introduced and in some sections have reached enormous proportions.

Towns and cities having multiplied in numbers and population, a great demand for dairy products has arisen in them, and to-day the home consumption is a very large factor as an outlet for this class of goods. Good wholesome milk is an absolute necessity for the growth and development of the child, and even for the adult might well form a part of the daily ration as perhaps no other article on the market can compare with it as an economical food. Not only has this industry grown and reached large dimentions, but with the aid of the organization already mentioned, its conventions and the support of the government, it is to-day splendidly organized for the protection of its interests and the prosecution of its activities.

Would it not therefore, be the height of folly then after having taken half a century to bring this industry to the unique position it occupies to-day, both in the home and foreign markets to allow it to decline, and sacrifice it for other interests that have not been able to keep pace with it in the past and none of which have any brighter outlook for the future. It has never been shown to be good business policy for one to be continually changing from one business to another nor from one phase of business to another in the same line, unless some great outstanding feature likely to be permanent rendered the one unprofitable and increased the other. As a rule it takes a man many years to attain proficiency in any branch of good business, and hence it should not be lightly thrown over for something else not so well understood. In this business of farming then in which no man that has ever lived has yet been able to learn all there is to know about any phase of it, he should surely consider the problem very fully, after having spent a number of years in any line, before making a change.

In no branch of farming is the opportunity for careful study greater than in the dairy business. If therefore one has been successful in securing a fair share of information with insight and ability to prosecute his business successfully the chances are largely against him improving his position by changing to some other branch of the industry or another occupation.

Considering the situation of the animal industry as we find it to-day, what would be the probable result if any considerable proportion of the dairymen because of the scarcity of labor or the high prices of other products should drop this branch and engage in the production of beef? It would most surely cause a great disturbance amongst cheese and butter factories. Many factories no doubt would find it unprofitable to continue their operations, would close their plants and the patrons that would have remained in the business would be forced into raising beef with the result of an over supply of the latter and a scarcity of milk products. The market that is fairly well balaced at the present time would be altogether onesided. The prcies in the one case would naturally soar while in the other they would be reduced below cost of production. But many will declare, as they have done under similar market conditions in the past, that there is no danger of overproduction. The experience of the past, however, has gone to show that the world's supply can very quickly fill a deficient market; the prices are particularly attractive and that under abnormal conditions there is danger of overproduction.

All classes of producers of live stock products are receiving remunerative prices at the present time and the circumstances should be exceptional indeed that would induce any to change.—O. V. Journal.

RULES GOVERNING WOMEN'S INSTITUTE CANNING COMPETITION TO BE HELD AT MONCTON, OCTOBER 2-3-4, 1917.

1. That only members having paid fees for current year contribute jars to the Institute exhibit.

2. That no more or no less than twelve jars be included in the exhibit, and no two jars must be alike.

3. That at least five of the fruits, five of the vegetables, and two of the meats be selected from the following:

Fruits—Strawberries, Raspberries, Pears, Plums, Peaches, Cherries, Blueberries, Currants, Rhubarb, Quinces, Grapes, Apples, Crabapples, Blackberries.

Vegetables—Beans, Peas, Corn, Tomatoes, Spinach, Mushrooms, Beet tops, Beets, Dandelion Greens, Carrots, Fiddleheads, Asparagus, Swiss Chard, Pumpkin, Parsnips.

Meats—Salmon, Poultry, Beef, Pork, Game.

4. That only pint jars with glass tops and wire clamps be used.

5. That each jar be labelled with a gummed label provided by the Department free, with the name of contents, name of Institute and date of canning neatly printed thereon, this label to be placed on face of the jar at the bottom.

6. That the Institute pay Express charges to Moncton and if the Department cannot arrange with the railway to give free return transportation, the Institute will pay for same.

7. That each exhibit be carefully packed and the list of contents with name and address of shipper (Institute secretary, etc.,) enclosed with exhibit.

8. That if the jars are to be sold and the money forwarded to the Institute, the memo of contents enclosed in exhibit will say so, or if jars are to be returned, this memo will indicate such.

9. That each Institute notify the Supervisor as to entering the Competition not later than August 31st, after which date each branch will be informed as to the number competing.

10. That all exhibits to be sent by EXPRESS, (when possible), to the Supervisor, Moncton, N. B., not later than September 27th.

PRIZES WILL BE AWARDED ON THE FOLLOWING BASIS:

If from	1st prize	2nd prize	3rd prize	4th prize	5th prize	6th prize
85 to 90 Inst.	$22.00	$21.00	$20.00	$19.00	$18.00	$17.00
80 to 85 "	21.00	20.00	19.00	18.00	17.00	16.00
75 to 80 "	20.00	19.00	18.00	17.00	16.00	15.00
70 to 75 "	19.00	18.00	17.00	16.00	15.00	14.00
65 to 70 "	18.00	17.00	16.00	15.00	14.00	13.00
60 to 65 "	17.00	16.00	15.00	14.00	13.00	12.00
55 to 60 "	16.00	15.00	14.00	13.00	12.00	11.00
50 to 55 "	15.00	14.00	13.00	12.00	11.00	10.00
45 to 50 "	14.00	13.00	12.00	11.00	10.00	9.00
40 to 45 "	13.00	12.00	11.00	10.00	9.00	8.00
35 to 40 "	12.00	11.00	10.00	9.00	8.00	7.00
30 to 35 "	11.00	10.00	9.00	8.00	7.00	6.00
25 to 30 "	10.00	9.00	8.00	7.00	6.00	5.00

The list of prizes is extended to 18th place in case 85 to 90 institutes compete. Each prize being $1.00 less than the preceeding prize, the 18th prize being $5.00. In the other combinations the same graduations are worked out, $5.00 being the lowest prize in every case.

N.B.—If less than TWENTY-FIVE Institutes compete, NO prizes will be awarded, but transportation charges will be paid both ways.

GOOD VENTILATION BRINGS HEALTH, WEALTH AND HAPPINESS TO FARM LIFE

The general term, ventilation, is one that covers several things: it includes not only the supply of an adequate amount of fresh air, but the removal of foul air as well; it means better sanitation, greater warmth, fewer germs—in short, increased efficiency all around. It means stock with bright eyes, sleek coats, good appetites; cows that give records in milk production; lusty, red-combed hens that cackle constantly; vigorous swine with heavy jowls; and with it all, it means more money in the farmer's pocket.

Experiments have been conducted at various places which indicate conclusively that ventilation is an essential requirement if conditions are to be maintained in such a way as result in maximum efficiency. Take, for example, the results of the work of one of our Experimental Stations along the lines of poultry house construction. In this project houses of different types yere used, some entirely closed, some open, and some with openings protected by curtains of cloth which served to eliminate drafts; the last type is popularly known as the "curtain front house. The experiments, extending over a period of years, proved that not only were the fowls sheltered in the curtain-front house healthier and more productive, but the succeeding generations possessed greater virility and stamina. These results are but a single instance where fresh air has been converted into definite form in dollars and cents.

There are a few fundamental facts and figures relating to the subject that perhaps should be briefly summarized here. Everyone knows that as air becomes warmer, it expands with a consequent lowering of its density, or weight per unit volume, and therefore rises; vice versa, air acquires a greater density and consequently descends when its temperature is reduced. With a knowledge of this condition of affairs, it is immediately evident that a circulation of air can be produced and maintained in a building if a portion of the air within it can be warmed and if some means be supplied for inlet and outlet.

Another question is that of humidity, one which is quite often lost sight of by the thoughtless. By humidity is meant the moisture content of the air; it is usually referred to as the relative humidity, the amount of moisture in the air being expressed as a percent of that contained in air completely saturated. At the same temperature, air with greater relative humidity is naturally heavier than that with low humidity. This has an important bearing on the ventilating proposition, for in the air exhaled by animals there is a considerable amount of moisture, and if this be retained within the building in which the animals are kept, the air may become so heavy and sluggish as to seriously impede circulation. Besides this, it produces an unhealthful condition, for while absolutely dry air is of course undesirable, too great humidity will be worse in that it is conducive to disease and to an actual lowering of resistance and vitality.

The amount of moisture eliminated through the lungs and skin of a 1,000-pound steer amounts to more than 10 pounds per day; in a dairy barn of 100 cows, this would then amount to 1,000 pounds, or 120 gallons, or 3.8 barrels of water, every twenty-four hours. This moisture must be removed by being absorbed and carried away by the air, since the relative humidity of external air is seldom less than 70 per cent. and since the rate of absorption grows less as the point of saturation approaches, it is very evident that a considerable quantity of air must pass through the barn in order that this result may be accomplished. Otherwise the moisture, instead of being removed, will be condensed upon the walls and ceiling.

To show the necessity of supplying a large quantity of air for this purpose, let us assume that we have a small dairy barn 36 feet wide, 40 feet long, with the ceiling 9 feet high, and that 20 cows are housed in this barn. The outside temperature is 30 degrees with a relative humidity of 70 per cent., and the temperature in the barn is 50 degrees. The 20 cows will exhale a total of about 210 pounds of moisture in 24 hours. Air in being warmed acquires an ability to take up moisture, and in this case, assuming the temperature rise to be from 30 degrees to 50 degrees and that the air upon leaving the barn is saturated, each cubic foot of air will absorb 0.00039 of a pound. To remove all the moisture, the enormous amount of 540,000 cubic feet of air must flow through the building, at the rate of 1,125 cubic feet per hour for each cow. As a matter of fact, more than this would be required, since the assumed relative humidity is lower than the average, and since the outflowing air would not be fully saturated so to increase this figure by 25 per cent. is not at all unreasonable.

Mechanical systems of ventilation are as yet practically unknown as applied to farm buildings. The principles that have previously been enunciated apply in the main to what may be called "natural automatic" systems, insofar as the principles themselves are simply natural principles, and these systems operate practically automatically, with little attention beyond a regulation of the air flow by means of valves or dampers. Valuable as the natural systems doubtlessly are, consideration must also be carefully given to the mechanical system, which by a power-driven vacuum or plenum fan forces air into a building under conditions that can be regularly and definitely controlled. True, there must be some source of power; electricity is often available; perhaps a small gas engine can be utilized; at any rate, only a very small amount of power is required, for under such conditions as affect a farm building, air can be moved very easily. With the mechanically operated system, entire independence of variable weather and more variable wind can be had.

In the natural system of ventilation the outlet flues are an important part. They may be constructed of wood or of galvanized metal, preferably the former on account of the smaller tendency to precipitate moisture out of the air; in any case, they should be airtight, well insulated, as straight as practicable, and should always be kept clear.

Inlet flues have to be adapted to the construction material used in the building. Their maximum cross-section area should not exceed half a [illegible] ber of them must be used. In a frame building, the intake can be located between the studs very handily. In concrete walls, wooden or metal forms can easily be set into the forms, so [illegible] Brick or stone walls can, of course, be readily laid up so as to contain [illegible] In all cases, the outer opening of the inlet [illegible] with coarse screen to keep out birds, and [illegible] the inner opening, to prevent the flue from acting as an outtake.

In conclusion it may be said that the farm animal is simply a farm

(Continued on page 615)

THE MARITIME FARMER.

And Co-operative Dairyman
Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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DATES OF ISSUE.

August 7-28
September 11-25
October 9-23
November 6-20
December 4-18

LEARN TO VALUE TIME

A writer in an exchange says: "I was very much interested a few days ago in observing two men, each of whom were hitching a horse to a buggy. They began at the same time and each seemed to work just as fast as the other, yet one was through several minutes ahead of the other. My curiosity was aroused and I looked over the two methods of hitching up. The one had snaps to fasten the reins to the bridle; the other had to buckle his. The one had his hold-backs already attached to the shafts with a snap to hook into the breeching; the other had them attached to the breeching and at each hitching-up had to wrap them about the shafts several times and then buckle them. The one had patent metal holders on the ends of the single-tree to hold the tugs on; the other had the old kind, a little strip of pointed leather that must be drawn through a hold in the single-tree.

This set me to thinking. For a hypothetical case, I assumed that each of these horses were hitched up and unhitched every day in the year except Sunday. At two and one-half minutes saved each time the one horse is hitched or unhitched, we have 1,500 minutes saved during the entire year. At 13 cents an hour for man power, this amounts to $3.25. At the most, 75 cents paid for extra equipment, the holders and snaps. Deducting this amount from $3.25 the one man is still $2.50 ahead of the other at the end of the year.

Good farm management consists in figuring on little things as well as the bigger things.

PROFIT AND LOSS IN FARM BUSINESS

The matter of bookkeeping on the farm is not a new topic. Ofttimes we hear an elderly man say, "I am not too old to learn." It is for a reason, perhaps, similar to this that we wish to bring it up again. We all know how we are sometimes skeptical when some new idea is advanced alone some line, which is said to be practical. It might be of great benefit to use, but we leave it for the other fellow to try out.

There are very few farmers who keep accurate accounts of costs and credits. Those who start this, very seldom discontinue the system. They have found that to make their business efficient they must have a complete and properly arranged cost statement to enable them to study and to compare methods, and finally to determine by what method they can produce a certain article the cheapest. One of these articles, the production of which must be kept as low as possible, is milk. Especially is this so right now, when the prices of feeds are so high. By keeping books, a farmer will find out what it costs him to produce milk, and he will, as a result, keep a closer watch on the prices of different feeds. He will find out whether his dairy as a whole is profitable. He will find out whether it is profitable to raise his heifer calves or whether he should dispose of them.

We could go into detail and point out many other reasons why we should know what we are doing. A city concern must know how it can keep down expenses. The books show the management how this can be done. In like manner, we must consider our farms as factories, and if we wish to make the largest returns possible from our factories, we must have some way of checking up. It will be a simple and easy task if we use system.

CHOKE OFF THE WEEDS

A weed is a wild plant bred and trained to struggle and fight for its existence. A cultivated plant has had much of the fight taken out of it through long years of selecting and training it for useful ends. Nothing can remain a wild fighter and at the same time excel in useful qualities. One quality must give way as the other advances. The original dog and wolf were probably much alike in character. The modern house dog, dwarfed in size and trained in gentle habits, must be protected from the wolf, or the latter would eat him up. In like manner, corn or wheat or potatoes or root crops can never hold their own against quack grass, ragweed or other noxious weeds. Left to themselves in such a struggle the useful or "cultivated" plants are always swamped. The cultivated grasses, in a sour, neglected lawn or pasture give way to the weeds and poor grass, but put on limei and nitrogen and phosphorus and the better grasses come back and occupy the land. This same thing runs all through life, for as plants or animals are improved and made more useful through selection and care they must have higher culture, better feeding and more careful protection. They are no longer fighters, but things to be defended and fought for as the price of their improvement.

DARK DAMP STABLES DEPRESS THE COW

One of the most important features of the dairy barn is good ventilation. A cow stable that is damp and dark is a breeder of disease and discomfort. If the walls of the barn gather moisture or are thickly covered with frost it is apparent that the ventilation is unsatisfactory. Livestock can stand a considerable amount of cold, dry air but just as soon as called upon to breathe damp, foul, moisture laden atmosphere they become more susceptible to disease germs and they are unable to make the best use of their feed.

There is nothing that offers a happier home for the forms of bacteria that breed disease than dark, clammy stables. Sunshine is the greatest enemy of germ life and it is one of the cheapest purifiers available. Next to this, or in conjunction with this is some system that carries off the heavy laden air that has been used until it has lost its invigorating element.

Just at this time much is being said about tuberculosis and other germ-borne diseases. These diseases should be fought in every possible manner. We believe in the "accredited herd," but we believe it is equally important that we have "accredited barns" before we have "accredited herds." We believe it is of the utmost importance that everything be done that can possibly be done to control this disease which is such a vital one in connection with the cattle industry. We do not believe in any scarce heads or radical action, but we do believe in cleaning up and straightening out the breeding industry from this standpoint. Begin by giving the cattle clean, bright, well-ventilated winter quarters.

VEGETABLE SEED GROWING

The present outlook upon the seed situation for supplies of garden vegetable and root seeds, demands that local growers attempt to produce such seeds locally, at least in sufficient quantities to meet local demands.

What amounts to a virtual prohibition of exports of such seed, is now in force in Great Britain through the Censor's Office, and with the inauguration of a greater production campaign in the United States, the outlook for Canada is "scarcity". If gardeners and farmers are warned in time, a great deal of such seed could be saved at home from gardens and fields.

There are now approximately approaching one hundred acres of turnips ground, sown during late summer, for the production of turnips from which to produce a seed supply for next year, for the spring trade of 1919. But other seeds too will be scarce and N. B. farmer's and gardeners should try to make provision as far as possible for such an emergency.

GOVERNMENT WAR CERTIFICATES ARE SPLENDID INVESTMENT

Every bank and every money order post office in the Dominion offers an opportunity for national service. They are the agents of the Government which is appealing for public investment in War Saving Certificates. Such certificates are on sale at the banks and post offices. They bear interest at the rate of over five per cent. They are issued in three amounts for three year periods and are redeemable with interest at any time. By investing in them you are lending your money to your country and serving yourself. The return is excellent. The certificates are registered at Ottawa and cannot be lost. You lend your savings to the nation to be utilized for national purposes and you help directly in the financial mobilization of the country, which is essential to victory. Twenty-one dollars and fifty cents will buy you a certificate worth $25 in three years. Save your dollars and help to win the war. The soldiers are fighting for you. What are you doing for them?

* * *

School children should be taught fire prevention.

* * *

Fight the fly with cleanliness, tidiness and ventilation.

A WELL PLANNED BARN AT CHORE TIME RELIEVES FARMER OF ANNOYING WORRIES

The first step toward introducing efficiency methods in the management of the dairy farm is arranging the buildings, yards, fields and pastures so as to avoid lost motion and unnecessary hauling. Some farms present greater difficulties than others, owing to the size and shape of the fields and the general lay of the land. Other conditions being favorable, it is always best to locate the buildings and cattle yards so that the business can be most economically and efficiently conducted. Providing the water supply, drainage aspect, protection and general outlook is favorable, the dairy barn and cattle yards should be located as near as possible to the geographical center of the farm, and in close proximity to a public road. The main factors to consider are the saving of labor in handling the dairy herd and in coming and going from the buildings to various parts of the farm, or between the buildings and stores, markets and shipping station.

Clean, dry yards, protect on the sides exposed to prevailing winds and storms, are the first essential of cleanliness and comfort. If the barn and sheds are built on low, wet ground, and the cows have to wade through a mudhole when going out and in, it is almost beyond the power of milkers to keep foul bacteria and sediment out of milk. The foul mud dries quickly and readily falls into the milk pail. It is one of the most objectionable forms of dirt because it quickly finds its way thru the strainers and settles in the bottom of the cans and bottles. Cows that are plastered with this kind of filth should have their belly, flank, udder and teats thoroughly washed before being milked. If the location prohibits locating the buildings and yards on well-drained land it will pay to fill in the low places with gravel or cinders.

Clean and well drained cattle yards are one of the important factors in increasing the efficiency of the labor force. If the cows are kept in muddy, filthy yards they are unpleasant animals to handle at milking time. If there is anything that will disgust a hired hand more than sitting down to a cow that has her belly, udder and teats covered with mud and manure, it is to have the cow in the next stall give him a vigorous wallop across the cheek with a tail that has been dragged through mud and filth in the yards. Is it any wonder that so many self-respecting hired men refuse to work on dairy farms where such conditions prevail?

The yards should be arranged so as to facilitate handling the herd easily and without danger of injuring the animals. By having the yards subdivided one can turn out two lots of cattle without having to mix them up and separate them again. The dry cows and the young animals may go in and out without annoying the milking herd or injuring themselves. Little things these are, but some lives seem to be made up of little things, little bothers and aggravations like the ones avoided on a well-planned farm. Chore time can take on a very annoying length, not because speed is lacking, but because efficiency is not there. Efficiency means making a given amount of time and effort go farther and accomplish more.

Security of crops and stock is well assured by tight stretched woven wire fences and substantial farm gates. Old hedges, barb wire and rail fences should be removed and replaced with woven wire with a barb wire on top. Small, insecurely fastened end posts and slack wires have been responsible for many lost teats and injured udders. With substantial woven wire fences there is less chance for the stock to be injured by the fence or by getting into growing crops. Large, substantial end-posts set four or five feet in the ground and well braced, keep a fence permanently tight. Concrete anchor posts give excellent service and may be moulded right in place. The main consideration in buying woven wire fencing is the size of the wires. Nothing smaller than No. 9 wire should be used for dairy cattle. It requires just as much labor and just as many posts for the erection of fence from smaller wire, and the heavier wire stands up better and lasts for a much longer time. Good gates save time, risk and annoyance. One should have the gates so arranged that the yards and pastures may be subdivided as occasion requires. Anyone who undertakes to handle a commercial dairy can save money, time and labor by planning carefully the location and designs of the fences and gates. An efficient setting can be secured without extra cost. There is a great difference in the amount of labor required to handle a dairy on farms where these matters have been given thoughtful consideration. Good sanitary stabling is an essential part of success in handling the commercial dairy. Elaborate and costly buildings are not necessary to produce clean milk. On many farms there has been a tremendous waste of perfectly good money in buildings and equepment that are far too costly for the uses to which they can be put. It should not be hald up against the dairy business that it does not pay because some men with more dollars than sense have indulged themselves in working out half-baked theories about model dairy plants and dairy equipment, which have subsequently not made proper returns upon the investments. Dairy barns must be built and equipments added from time to time as the needs of the business indicate, and not built off-hand to satisfy a senseless whim. Every unnecessary expenditure becomes a charge against the business and prevents profits accumulating.

Modern efficiency is rapidly evolving a standard type of barn and stable. This barn is about thirty-six feet wide and as long as may be necessary to accommodate the number of cattle kept on the farm. This provides for two rows of cattle and gives the owner an opportunity to regulate the inside furnishings properly and to install feed and manure carriers, and to use milking machines. The manufacturers of the inside furnishings for dairy stables have standardized their stalls, stanchions and mangers to conform to these measurements. In building a new barn or remodeling an old barn it is always better to consult an expert and have definite plans to follow while the work is being done. So many excellent plans are available that it is hardly worth while to give advice concerning the inside measurements and choice of equipment. A visit to some well arranged dairy barn and a study of the methods of handling the herd will give one a better idea of the inside furnishings that can be had by reading a short article.

Concrete floors, feeding alleys and standing platforms come the nearest to meeting the sanitary requirements and permit the light to reach all parts of the stable. The side wall and ceiling should be smooth to prevent dust and dirt from gathering and dropping into the milk utensils and onto the cows. While the efficient dairy cow is the basis of efficient dairy farming, she cannot do her best work unless she is placed amid comfortable and sanitary surroundings. Good, comfortable stables, properly ventilated and lighted, are essential to heavy production and healthy cattle.

The location of the milk room so as to save time, energy and money is an important item in increasing the efficiency of the labor force. The same thing applies to the various details of feeding, cleaning and bedding the cattle. The dairy farmer who studies the problem of efficient herd handling will find it possible to effect a big saving in labor charges during the year, and derive more pleasure and satisfaction from his work than the thoughtless worker.

Clean and sanitary quarters for the calves and young stock are necessary to secure their proper growth and development. A good calf pen must have certain features. It must be dry, have proper air circulation, without drafts and not too cold. The pens should be bright and sunny. The direct rays of the sun should reach all parts of the floor some time during a winter's day because sunshine is one of the greatest purifiers. Dark mangers and corners should be done away with when building calf pens. They get damp and foul and become breeding places for disease germs and insect pests. Absolute cleanliness must be preserved in all parts of the pens especially the floors. As a rule it is better to have the calves and young heifers away from the older cattle. It reduces the risk fro mdisease and injury and facilitates the work of feeding and caring for them. The calf barn need not be expensive: if comfortable, well lighted and properly ventilated it will fulfill the requirements.

MILKING MACHINES THAT SAVE LABOR AND ARE EASY TO WORK AND CLEAN

That during the present labor shortage the milking machine may prove to be of great service on farms where twenty or more cows are kept, is a statement made in a recent circular from the New York experiment station. Directions for selecting, operating and cleaning the machines are given.

The same business judgment should be used in selecting a milking machine as would be the case in buying any other kind of machinery. The longer a machine has been in successful operation, the surer the owner can be that it is a mechanical success. A record of three years of successful operation is none too long to make sure that a machine is worth buying, the record having been made independently of the manufacturer.

As a general rule, the simpler the construction of a machine, the more likely it is to be a success. This statement applies especially to the teat cups. If they are of complicated construction it is very difficult to keep them bacteriologically clean. Statements made that machines, which allow stable air to pass into them with the milk, are failures because they are insanitary should not be accepted as the truth. Recent tests show that not more than one or two bacteria per cubic centimeter are added to the milk in that way.

Even though a machine which is as good as there is to be had, has been installed, it will not be a success upon any farm unless it is operated properly. It is as necessary to use judgment and care in milking a cow by machine as by hand. The cow is not a machine and never can be made over into one. If you fail to make a success of a machine which others have successfully used for several years, the pr babilities are that the trouble lies with you. Instead of getting discouraged, study the machine and try to discover what is wrong.

Keeping the machine clean is just as important as operating it properly. Very few farmers using milking machines keep them bacteriologically clean. Where this is not done the milk usually has a germ content of 50 to 10,000 per cubic centimeter as it enters the teat cups and leaves them with a germ content of 200,000 to 5,000,000 per cubic centimeter. Such milk sours very quickly and is not fit to be sold as market milk, or for butter or cheese-making.

The pail can be kept clean in the same way that any milk pail is kept clean, that is to steam or scald it and dry it out thoroughly. The rubber parts can not be cleaned in this way but should be kept in a disinfectant solution. Various germicides have been tried out for the purpose and several of them are valid, but the one which has proved the most useful in the experience [illegible] is formaldehyde. [illegible] is prepared as a 40 per cent. [illegible] is good or poor [illegible] the price.

When purchasing [illegible] do not buy more than one or two 12-ounce cans at a time and do not accept any in broken or rusted packages or any that is moist. If fresh, it should be a dry powder and of good strength. Prepare a stock solution by adding all the powder in one can to a gallon of water in a pitcher or tall glass jar. This will give a greenish colored liquid with a heavy white sediment or lime.

Fill a second crock, holding 20 or 30 gallons with water and add one pint of the stock solution to this twice a week. Double the quantity will do no harm. The solution in the big crock loses strength quickly on using and in a few days will become useless if the new chloride is not added. It is advisable to add enough salt to the crock to make a strong brine as this keeps the solution from freezing in cold weather, and brine is of itself, a good solution in which to keep the teat cups. The salt, however, is not necessary if attention is given to keeping up the strength of the chloride solution. This solution may be used indefinitely, if its strength is maintained by adding fresh chloride of lime solution as directed.

Immediately after each milking prepare three pails. Fill pail 1 with clean, cold water, pail 2 with hot sal soda water, and pail 3 with clean, hot water. While the teat cups are still attached to the machine immerse them in these pails successively, at the same time sucking the water through them. Then take the teat cups and stanchion hose and either suspend them or immerse them in the solution in the large crock. Care should be taken when putting the tubes into the solution to make sure that all air bubbles are out of the tubes and that they are completely immersed.

Neither rubber nor properly-made metal parts are injured by the solution recommended. If trouble from corrosion of the metal parts occurs, it will show that the manufacturer of the machine has given little attention to making the machine sanitary or a mechanical success. Machines handled as above outlined, will be found to be as near sterile as it is practicable to make them. Milk drawn through machines cared for in this way is cleaner and freer from bacteria than hand-drawn milk. Once a week the rubber teat cups should be taken completely apart and each part thoroughly cleaned. No disinfecting solution will take the place of cleaning.

Just before beginning to milk, a pail of clear water, either hot or cold, should be sucked through the teat cups, in order to prevent traces of the disinfectant being carried over into the milk. Even if this does happen and traces are carried over, harmless compounds are formed like some already present in the milk. The action is such that it would be necessary to add large quantities of the disinfectant if anyone should attempt to use it fraudulently as a preservative to milk. If this is done, the milk has such an unpleasant odor and taste that it is unsalable.

On account of the labor shortage [illegible] market more with the intention to sell than to give satisfaction, therefore farmers should deal only with responsible [illegible] is worth more to them than the few [illegible] by [illegible]

HORTICULTURE

CODLING MOTH TRAP

A codling moth trap has been devised by E. H. Siegler, of the Bureau of Entomology, United States Department of Agriculture, to be used as a substitute for what is known as the "banding" method for destroying the codling moth. The banding method, in which a folded strip of burlap is wrapped around the tree trunk, demands a considerable amount of labor, and the new trap is designed to minimize this.

The trap affords an attractive place for the larvae to spin their cocoons, and it prevents the escape of the moth after they emerge from these. The trap, which consists of a burlap band covered by a strip of wire screen, is made as follows:

Strips of burlap 6 inches wide are folded into three thicknesses. The loose bark from the lower branches and trunk of the tree is removed and a strip of this burlap folded once around the trunk. It is held in place by large tacks, which should be driven in in such a way that the edge projects about one-fourth of an inch beyond the burlap. The burlap is then covered by black-painted wire screen with 12 meshes to the inch. This is cut into strips 6 inches wide and the edges of each strip are folded twice, allowing one-fourth of an inch to each fold. The strip of screen should be long enough to allow for an overlap of 3 to 4 inches when placed around the trunk of the tree. The wire screen is placed over the burlap band and tacked to the tree in such a way that both the upper and lower edges fit snugly against the bark. The projecting tacks used to fasten the burlap to the tree prevent the wire pressing against the cloth. To make sure that no moths may escape through openings along the edges of the trap or along the flap, a thin coating of pitch tar may be used. This material, when heated, may be applied readily with a brush.

The traps may be placed on the tree at any time during the winter or in the spring not later than one month after the petals have dropped. As long as no openings occur in them they will require no further attention. The codling moth larva, having completed its feeding in the fruit, seeks a place to spin its cocoon, and for this purpose generally crawls up or down a tree trunk. Meeting the trap, it enters through one of the openings in the mesh of the wire screen and spins its cocoon beneath the burlap band. When it emerges as a moth its larger size makes it unable to escape through the opening in the screen by which it entered the trap.

It must be clearly understood, however, that this trap is not a substitute for spraying, but merely an additional precaution. Nevertheless, some larvae will invariably escape, and the offspring of these are largely responsible for the damage to the fruit crop. By the use of the codling moth trap, in addition to thorough spraying, the majority of the unpoisoned larvae may be captured and injury by later broods will be materially reduced.

DUST METHOD AND LIQUID SPRAYS.

Applying insecticides in the form of a dust is not by any means new. During the past twenty-odd years there have been numerous experiments in which the efficiency of insecticides and fungicides applied in the form of a dust were compared with the same materials applied in the form of a spray. Many entomologists, horticulturists and fruit growers have recognized the disadvantage of applying the poisons and insecticides as a spray, which necessitates the hauling of considerable quantities of water through the orchard. Ahe advantages which would be derived from the application of poisons in the dry form have always been a stimulus to these experiments. Until within the past two or three seasons, all comparative tests of the two methods have shown that the liquid sprays gave greater protection and that a greater percentage of the fruit was free from injury.

Within the past two or three years, however, the machines employed for dusting work have been very materially improved, likewise the materials used for dusting have also been developed so that without question the differences in effectiveness which exist between the two methods are not sa great as formerly.

Late Experiments

In New York, at the Cornell Station, an extensive series of experiments have been carried on for two seasons in which these methods were compared in a practical way; also during the same period similar experiments were being conducted at the Illinois Experiment Station. The results of these tests can not be gone into in detail, but it is sufficient to note that the dust method has given excellent results in preventing injury by codling moth and a fair degree of control of apple scab. The advantages that the dust method has over the older liquid spray are such that fruit growers should investigate this method. The dust machine itself is very light and thoroughly adapted to rough land. It is simple in operation and much less expensive than the ordinary power spraying outfit. The chief advantage, however, to be considered is the speed with which the dust can be applied to the trees. The application can be made very quickly, even from 30 to 40 acres in a single day being not unusual. Persons who have been accustomed to using liquid spray feel that the application of the dust is a very awkward operation and many are prejudiced against it.

As to the cost, there seems to be

The Transformation

Right in the heart of the great city of Toronto, in the centre of the principal business district, close by the cross-roads of main traffic, stands the "second longest bar" in all Canada. Observers say they used to count hordes of men entering this stronghold of the Traffic. Were the frequenters of the bar better men when they came out?

On September 16th, 1916, Prohibition went into force in Ontario, and, of course, the bar lost its license. On the 16th of April, 1917, the old bar was busier than ever! But what an arresting, beautiful transformation! Would that you and your sons could have been there to see the sight. The old barroom was a bevy of flowers. Fifty fair ladies served refreshments to Toronto's most prominent citizens and their wives, and not one of them all but was proud to be seen in the old barroom.

The aching, worrying hearts of the army's mothers are relieved now when they see their sons enter this building—for the old bar is helping to save men now instead of ruining them.

The hotel is now the "Y.M.C.A. Soldiers' Club," one of the Young Men's Christian Association's long chain of clubs, marquees, huts and "dug-outs" extending from Vancouver to the firing line in France—those helpful sentinel-posts that safeguard our precious soldier men and boys wherever soldiers are congregated. To the Y.M.C.A. Canada owes a debt of gratitude she never can adequately repay.

Like New Brunswick, the Traffic in Ontario has the opportunity, after the war, of putting Prohibition to the test at the polls. But Prohibition in Ontario is being *enforced*, and the old strongholds of the Traffic—the long bars we mean—are one by one being turned to useful purposes. Many of the hotel buildings that depended for existence upon bar trade are now devoted to commercial enterprises—constructive instead of destructive.

Does New Brunswick want to return to the destructive license system, and again be a partner in the old firm of John Barleycorn and Company, Limited?

Or does New Brunswick want to maintain Prohibition for ever? If so, Enforcement must be province wide, must be both strict and effective.

Help to Enforce Prohibition

Every man and woman in this province shares the responsibility for the proper enforcement of Prohibition—not the officers of the law alone. ***Your*** duty is clear.

Dominion Temperance Alliance

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As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and laso a 32 Box Crate. Order early and insure prompt delivery. Price on application.

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THIS SUMMER
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Here at last is the perfect combination of boot and moccasin. The general shape is that of a moccasin, but the boot is built on a last, with a long solid counter to hold up the heel. It has all the easy foot fitting comfort of a moccasin, and, at the same time, it will stand right up and keep its shape with any boot.

The new chromoil leather used is simply wonderful. The chromoil tanning process produces a through-and-through, instead of a surface, waterproof, and a leather much stronger and more durable than any other. These new farm boots will not crack and shrivel when dried by the fire. They remain pliable in weather that freezes other oil-tans. They outwear any other boot of their kind on the market, and give solid comfort and satisfaction every day.

If you have any trouble getting these new Palmer-McLellan Chromoil Tanned Farm boots locally, mail us the price and we will ship you a pair postpaid.

Men's Sizes	6	inches high,	per pair	$4.50
" "	10	" "	" "	5.00
Boys' "	6	" "	" "	3.50

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Here is something new in footwear specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all those needing strong yet light, cool, easy shoes. These are made on good-fitting right and left lasts from our famous oil-tanned Skowhegan waterproof leather with waterproofed sole leather outsoles and solid insoles.

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very little difference in spraying or dusting for the codling moth. In applying the poison in the form of dust much greater quantities of material are used, but the increased cost of the poison is offset to a considerable extent by a saving of time and labor. Fruit growers who have had difficulty in controlling the codling moth and who have such a large acreage to spray that they are not able to get over the entire orchard within a few days after the petals fall, should investigate the dust method.—W. J. Schoene.

LEGAL REQUIREMENTS FOR FRUIT PACKAGES TO BE ENFORCED

At the request of some fruit growers and shippers, certain manufacturers have been induced to make fruit baskets which were not in accordance with the requirements of the Inspection and Sale Act, Part IX. This has created a condition which was unfair to the honest grower and shipper as well as to the consumer.

The sizes of the eleven and six quart baskets, the two most popular sizes used in eastern Canada, are specifically defined in inches. The eleven quart basket is required to be 5¾ inches deep perpendicularly, 18¾ inches in length and 8 inches in width at the top of the basket; the bottom shall measure 16¾ inches in length and 6⅞ inches in width. The six quart basket is required to be 4½ inches deep perpendicularly, 15⅜ inches in length and 7 inches in width at the top of the basket; the bottom shall measure 13½ inches in length and 5⅞ inches in width. All measurements to be inside the veneer proper and not to include the top band.

The packages which have been found in violation were made so as to contain less fruit than the standard although having the appearance of holding an equal quantity.

The Fruit Branch at Ottawa has endeavoured to secure compliance with the law by pointing out the advantages and desirability of uniform packages, but unfortunately it has not been able to obtain the desired result.

Instructions have been issued to the staff of fruit inspectors to enforce the Act in this regard and to recommend prosecution in every case of violation. The penalty provided is a fine of 25c for each package so found.

It is therefore necessary for growers and shippers to exercise great care in purchasing thei supply of fruit baskets to see that they are in accordance with the requirements of the law.

PREVENT WOOD DECAY

Especially in the stone fruits, wood decay causes great loss. A decayed tree may grow and bear fruit, but it soon shatters in a severe storm, or breaks under its load. Then there is the expense of planting another tree and waiting for it to come into bearing.

We recently read an account of fifty-year old peach trees still vigorous and bearing fruit. The claim was made that this was because the tree had been protected from wood decay. If we could gather crops for fifty years from the same peach trees it would seem worth while to keep them in good condition.

The decay is caused by fungi that enter some wound or unprotected spot—such as a portion over which the bark is dead and affords no shield from the fungi. Infection takes place only from spores that fall on dead bark or into the cracks of wounds. The resulting fungi grow in the wood, and, by a process of digestion, use it up and leave only ash.

The prevention consists of disinfecting any wound with a germicide, and, as soon as that is dry, painting over with some sealing paint. This should be done immediately, so that no cracks may form nor spores enter. No sealing paint can be counted on to last more than a year, and, therefore, the place should be repainted every season until the wound has completely healed over.

REMEDIES FOR CURRANT AND STRAWBERRY WORMS

The imported currant and gooseberry worm, or "saw-fly", has been introduced in several localities in Colorado and is very destructive to the leaves of these bushes. There are two broods a year, the first appearing quite early in the summer. If there is no fruit on the bushes, they may be sprayed with arsenate of lead, 1 pound of the powdered form, or 2 pounds of the paste form to each 50 gallons of water. When fruit is on the bushes, use white hellebore, which will kill the worms but will not harm people who eat the fruit. Apply the hellebore either by dusting lightly through a cheesecloth sack, or by putting 1 ounce in each 3 gallons of water and applying by means of a spray pump or a whisk broom. Apply promptly when the injuries are first noticed. Do not allow the worms to defoliate the bushes and ruin the fruit and perhaps kill the bushes as well.—C. P. Gillette.

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Good Cheese is in Demand - Use
Windsor Cheese Salt
Made in Canada
THE CANADIAN SALT CO. LIMITED
226

DAIRYING.

MORE MONEY IN DAIRYING IF FARMERS WILL ADOPT METHODS OF IMPROVEMENT

The desire to own better bred dairy cows and feed more liberal rations of rich concentrated feed stuffs has caused many dairy farmers to overlook other important factors that contribute to the success of the business. No matter how well-bred the cows, or how heavy rations they are fed, improper care for only a few days may change the result from gain to loss. The better the cows and the more liberal rations they are fed, the more important becomes the question of good care and skilful herd management.

The cow that is producing a heavy flow of milk and fed all the rich grain feed she can digest and assimilate is doing a large amount of work. Selective breeding and heavy grain feeding for an increased flow of milk have deveyoped an immense udder and a corresponding large digestive capacity. Nature did not create the cow to give milk for man. Man has simply taken her and developed her to meet his special needs. It is important that we take these things into consideration and give her care and surroundings that are in harmony with her new environment. Like any other animal that is developed for a special purpose she is stronger in some points and weaker in others; and the better the cow, the more delictae her organism and the more sensitive her nervous system, hence the more important becomes the question of good care.

Liberal Feeding Pays

Developing young heifers and getting them well started toward profitable reproduction calls for proper feeding and the best of care. If we are to secure evenly-balanced cows, we must feed the right kind of materials in sufficient amounts to develop the whole body as nature designed and not allow certain parts to develop at the expense of the others. Bred as our dairy heifers are, to produce milk in increased quantities, we must feed proper and generous rations so that they will be sufficiently developed to breed for their first calves when nature calls. Early breeding does not, other conditions being right, weaken the vitality of the heifer as many breeders and dairy farmers argue. All that it does do, is to make a demand for more food as two lives must be supported instead of one.

Use Well-Bred Sire

Having decided on breeding up the herd by selecting promising heifer calves from the best cows it becomes very important that the proper sire shall be used for breeding purposes and that strong and healthy calves shall be dropped. The sire should be a well-bred one. It is not enough that his name is recorded in a book and that he has a pedigree. The producing ability of his dams and grand dams should be known. Registration is of no particular value unless it stands for production. Cows are kept primarily for what they can produce at the pail, anl not simply to breed along fashionable lines or families of the breed.

Get a bull whose dam and grand dam on his sire's side were efficient producers. Never go back over three or four generations of registered scrubs to find some famous animal in the pedigree. Look for the desired excellence in the animal you are buying, or close up in the pedigree.

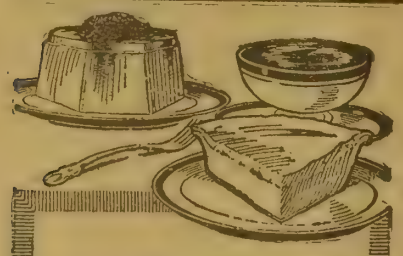
In order to obtain strong and healthy calves the cow should be well fed during pregnancy. The common practice of stopping all the grain ration when the cow goes dry is not a good one. The feed may be of the same nature as when she is milking, a good protein ration. The amount of grain feed may be regulated by the quality of the roughage and the flesh condition of the cow. Two or three weeks before it is time for calving lighten up the grain ration by substituting wheat bran for the heavier grain feeds. This stimulates the activitf of the digestive system and furnishes excellent material for building bone in the young calf.

After the calf is dropped it should have milk from its mother for the first few days. As soon as it becomes accustomed to drinking from a pail, eight to ten pounds of whole milk will be sufficient for the first three weeks. After that gradually substitute skim-milk and feed grain substitutes and fine, well cured hay. Whether one is to feed skim-milk and grain or prepared calf feeds, it is necessary to feed whole milk until the digestive organs become sufficiently developed to make good use of other feeds.

Heifers Should Pay for Selves in Five Years

Having reared good heifers given them good care up to the time they are five years old, they will have about paid for themselves. Some of them may not come up to the desired requirements, but most of them should if given proper care. They have paid us a fair market price for our feeds and left valuable fertilizing materials on our farms, enabling us to raise more and larger crops. These young cows are just at the prime of life and should be able to give good results for five or six years. In fact, some cows that are properly fed and given good care are frequently profitable until they are twelve or fifteen years old.

In these days of high-priced dairy cows and feed stuffs the question of good care becomes of still greater importance in getting at the profits from the dairy herd. Among the essentials of good care, comfortable housing and a supply of clean water are of first importance. This means that the cows should have warm, light and properly ventilate dstables, sufficient exercise to maintain bodily vigor, and an adequate supply of clean water to enable them to make efficient use of them rations. Such treatment is not merely humane: it is necessary. Regular feeding, watering and milking are es-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Moncton Business College,
Moncton, N. B.

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I bought a horse with a supposedly incurable ringbone for $30.00. Cured him with $1.00 worth of MINARD'S LINIMENT and sold him for $85.00. Profit on Liniment, $54.

MOISE DEROSCE.

Hotel Keeper, St. Phillippe, Que.

sential to an even, well-sustained flow of milk. The best results are always obtained whereby the different work is done at the same time each day. Milking should be performed as quickly as possible without injuring the cow. It is very important that cows be milked clean at each milking, not only because the last of the milk is richest in fat, but because whatever milk is permitted to remain in the udder from one milking to another is not only lost, but acts as a check upon further secretion.

Sanitation Essential

In the production of sanitary milk and maintaining the health of the cows no one thing is of more importance than a clean, dry and comfortable yard. Too many dairy farmers do not fully appreciate the importance of keeping the surroundings sanitary, dry and free from manure and litter. Many valuable cows are seriously injured by going through mud holes and manure heaps in the yards, to say nothing of the inferior quality of the milk produced by cows that have their belly, udder, flanks and tail plastered with this barnyard filth. On most dairy farms a little grading, a few rods of tile drains and six inches of cinders over the surface will mean a dry, clean yard.

While the efficient dairy cow and an adequate supply of good feeding materials are chief requisites of successful dairying, they cannot return a profit under present conditions unless supported by good care and skillful management. Never in the history of the dairy industry has there been a time when attention to comfort, yard and stable sanitation and little details in herd management were so essential to profits.

Importance of Ventilation

Although necessary for the health of the cows, light and pure air are almost universally lacking in dairy barns. Windows and better system of ventilating are far cheaper than dairy cows and feed stuffs. Pure air is more important than pure water, just as pure water is more important than pure food. To make economical use of high-priced feeding materials and keep healthy and vigorous, the cows must have plenty of light, pure air and pure water.

Cows that are giving a full flow of milk require water in large puantities and at regular intervals. If water basins are not in the stalls, one should have a watering place in a sheltered yard and have the drinking tank so arranged that the temperature will be kept above 60 degrees Fahrenheit during the cold weather. Drinking cold water at irregular intervals and usually not in sufficient quantity results in a decided falling off in milk yields. It is very difficult to understand what process of reasoning will lead a dairy farmer to invest in high priced dairy cows and feed stuffs and neglect to provide such cheap and necessary essentials as light, air and pure water.—W. M. Kelly.

WEED THE HERD RATHER THAN TRY TO INCREASE IT

In forecasting events we are apt to be influenced too much by present conditions regardless of whether these are usual or abnormal. If a certain crop is a failure or a partial failure in a given year and prices are high it is fairly certain that the next year will see a large acreage planted and the market overstocked. If any line of meat product is low and live stock plentiful, the autumn is likely to see large numbers of breeding stock sacrificed and the following year meat scarce and high priced. The result of this practise is that when the prices are good farmers as a rule have little to sell and when they are low everybody has large offerings.

All classes are likely to get into that habit of unreasonably allowing present conditions to influence them instead of studying these in the light of future probabilities.

On account of the abnormal state of affairs existing at the present time it is even more difficult than usual to prognosticate regarding food values with any degree of certainty. It is well today, however, to look into the future, but even then no one knows what to expect. With some of the great leaders declaring that the war cannot last more than a year longer and others equally certain that it has only just begun leaves no ground of hope for the ordinary mortal to base his opinion of the future or its needs on any solid ground. Of one thing, however, all seem to agree, namely, that there is at present a great scarcity of food and that if the war continues for two or three years longer every available means will be needed to feed the Allies at home and abroad during the struggle.

It is a well known fact that cereals used as food will go a long way further in their natural state than they will when fed to pigs or cattle for furnishing meat to the public. With this fact before us it is not wise, under present conditions, to push the Live Stock interests in the way of increasing the size of herds. It will be much better to weed out all poor specimens and in this way increase their products without using as much grain as has been necessary in the past to produce a hundred weight of milk, cheese or meat. While this practise of curtailing the live stock industry might not appeal to some farmers, in the end there is little doubt that it would be a good thing. One of the greatest evils of this useful phase of farming has always been the keeping of a lot of inferior stock. All the milk and meat supply of the country could be produced with a third less cattle if first class stock only were kept instead of so many inferior animals.

A large saving of cereal food may also be accomplished by raising the legume fodder crops. A good cow will give a large quantity of milk on silage and good alfalfa or red clover hay in winter and good succulent pasture supplemented with silage and alfalfa in summer, and by providing these cheap foods in abundance cereal grain feeding may be reduced to a minimum. A large supply of sugar beets or mangels will also help out greatly in this respect. Let us therefore eliminate as far as possible cereal feeding to live stock by adopting these measures.

Of course these suggestions do not mean that stockmen should eliminate grain feeding altgoether from an animal's ration but rather that by the substitution of leguminous and succulent roughages the amount could be greatly reduced and only mill by-products be used as concentrates and these only in connection with heavy producing cows. In this way a great amount of cereal grain could be saved for human food, which is so badly needed at the present crisis of the world's needs.—O. V. J.

FEEDING DAIRY COWS

Fifty years ago the feeding of dairy cattle was a simple process. Feeds were home grown and few in number and there was little or no knowledge of feeding standards. Grain rations were often composed simply of corn, or oats or both, and cows were usually dry in winter.

By thoroughly understanding feeds, rations may be computed as occasion demands. The ration should be palatable, and as nearly like summer conditions as possible.

Breeders of wairy cattle will be interested to learn that Mr. C. S. Wood has been appointed chief inspector in connection with the Record of Performance work. Mr. Wood has been a member of the Federal Service since 1911, being assistant to the late Mr. D. Drummond.

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WHETHER you are selling cream or making butter, if you have no separator, or are using an inferior or half-worn-out machine, you are wasting cream, time and labor every day you delay the purchase of a De Laval.

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Alleged Profits of the William Davies Company in 1916 on Bacon, as Indicated by Department of Labor to be Five Cents per Pound, Untrue :

Actual Profits Two-Thirds of a Cent Per Pound

THE statement issued by the Department of Labor concerning the business of The William Davies Company Limited has been given widespread circulation throughout the country and provoked public unrest.

Whatever the technical wording of the report was, the effect has been that the newspapers have published that "the profits on Bacon alone" of this Company "for 1916" were about "five millions of dollars. This interpretation of the official report is not surprising in view of certain statements that the Commissioner of the Cost of Living makes. The commissioner is reported as saying that "There were two individual cases of profiteering in 1916 and that had these cases occurred since the passage of the cost of living Order-in-Council, he would consider it his duty to recommend that the facts be laid before the Attorney-General for consideration as to their criminality." The situation created by such erroneous and damaging statements is serious as emanating from a Government official, from whom one looks for not only accurate statements but correct conclusions.

The William Davies Company, being a private concern, has followed the practice of all private corporations, except when it made a bond issue in 1911, in that it has not published reports of its assets and liabilities or profit and loss. The present circumstance, however, in which a Government Official has led the public to false conclusions, makes it advisable for this Company, for both the public interest and its own interest, to publish particulars of its business as well as point out the error of the statement of the Government Official.

For the last fiscal year ending March 27th, 1917, The William Davies Company bought and killed 1,043,000 head of Live Stock (Cattle, Hogs and Sheep). This, plus purchases of outside Meats, produced 160,000,000 pounds of Meats. The Company handled 6,550,000 pounds of Butter and Cheese, 5,650,000 dozens of Eggs, and manufactured 26,500,000 tins of Canned Goods..

The net profits on these were .68 cents (or two-thirds of a cent) per pound on meats, 1.04 cents on Butter and Cheese, 1.04 cents per dozen on Eggs, and .47 cents (or slightly less than one-half a cent) per tin on Canned Goods. There profits include profits on all By-Products derived from these accounts.

During the year the Company served at its retail stores 7,500,000 customers, the average purchase of each customer was 35c, and the net profit on each sale was 5-8 of 1 cent.

The turnover of the Company from all its operations for the fiscal year ending March 27th, 1917, was $40,000,000. The net percentage of profit upon this turnover, after deducting war tax, was 1.69 per cent., or including war tax 3.45 per cent.

The William Davies Company has assets of $13,385,000, of which $3,865,000 is tied up in fixed investments.

To provide the necessary facilities for the increased volume of business the Company expended $750,000 in buildings and equipment during the year.

Companies of other character present no more reasonable statement of profit and loss based upon the investments made in the business.

The William Davies Company offered to the Imperial authorities, as well as to the War Office Service (which represents the Imperial authorities in Canada) to place the output of its Factory with respect to Bacon supplies, Canned Beef and Pork and Beans at the service of the authorities, on the basis of cost plus an agreed percentage. These offers were successively declined as the authorities evidently desired to purchase in the open market, and on this basis The William Davies Company has secured War Office business by open competition with the world.

Respecting the Report of the Commissioner on the Cost of Living :---

Last Winter the Commissioner, under authority of Order-in-Council, required packers to submit statements under oath for some years back and up to Decnmber 1st, 1916, of incoming stocks of Meats and the cost of such, as well as statements of outgoing products and the selling value. This Company represented in writing at the time that the information as specifically required was not in accordance with Packing House Accounting methods, and invited the Commissioner to send an Officer to the Head Office of the Company to examine the books for any information desired, and to secure a viewpoint as to the best way of collecting data which would be of use to the Government. This offer was declined, and there was nothing to do but fill in the information required as literally as we could determine it. For example, there was no recognition of the fact that a raw product may enfer a factory under a specific classification and leave the factory as a finished product under some other classification.

We submitted a series of accurate figures based upon our interpretation of the official repuirements which made no provision for charges of any description other than incoming freight and unloading charges to be included in the cost or to be deducted from the selling price. There was nothing in the report which could he read so as to determine a profit and loss statement. The very fact that with only a statement based upon cost of raw products and value of sales in Great Britain a Governmen: Official has deduced "Large margin," "Profiteering" and "Criminality" if it had occured since the passage of a recent Act, shows too dangerous a trifling and inc_pacity to be permitted to deal with any important situation. The statements of this Company have been treated by the author of this report as if the outgoing product was identical with the incoming product, and from the series of reports he has singled out two items—the Bacon and Egg reports—and from them deduced an erron-

(Continued on next page)

(Continued from preceding page)

eous "margin' which the newspapers have interpreted as "profit." The author of the inquiry shows a strauge lack of even a fundamental knowledge of simple bookkeeping and a dangerous inability to co-ordinate figures. The following are specific and outstanding errors in the report:

The principal item that is causing excitement deals with cold storage Bacon. The term "cold storage" is not defined, and the public is allowed to make its own definitions. As all Bacon in a packing house is under refrigeration it is really all cold storage, and therefore this Company's figures of cold storage Bacon represent the complete quantity of Bacon handled in its entire Plant, whether in freezers or in process of cure for immediate shipment. That some Companies interpreted cold storage product as "freezer" product only is evidenced by the smallness or entire lack of figures on the Bacon list for some Plants, indicating that many firms did not submit statements of their complete stocks, as did this Company. An official of this Company pointed out this cold storage distinction to Mr. O'Connor and Miss McKenna in Ottawa a few weeks ago, and the failure to make the distinc. tion after having had it pointed out evidences the lack of desire for accuracy of the real information desired.

It is true The William Davies Company, in 1916, exported 97,791,000 pounds of Bacon. but we do not know how the margin of 5.05 cents per pound is arrived at by Mr. O'Connor, as there were no figures to justify such a conclusion. The probabilities are that the margin is arrived at by taking the average cost per pound of incoming product from the average selling price per pound of outgoing product. This may be a rough way of estimating the gross margin when dealing with small figures, but when dealing with figures the size that Mr. O'Connor has to deal with, a very small fraction of a cent per pound of error makes a very important difference in the total, and one must be careful to make sure that the outgoing product is the same finished merchandise of the incoming product reported on.

Allowing it to pass, however as a rough estimate, we wish to point out (first) the inquiry of the Commissioner allowed only for incoming freight and unloading charges, and made no provision whatsoever for operating charges of any kind, such as labor, curing materials, refrigeration et cetera. Such actual charges on the 97,791,000 pounds exported were $1,162,000—or 1.2 cents per pound. This amount covered all charges up to the point of placing the Bacon on cars f.o.b. packing house. In addition to this was the actual cost to land and sell this 77,791,000 pounds in England after leaving the packing house, which involved charges of 2.9 cents per pound —$2,836,000. This 2.9 cents per pound included inland and ocean freight, landing charges, war and marine insurance, cables, and selling commissions to agents. The ocean freight and war risk alone would make up 2.4 cents of the charge of 2.9 cents per pound. This 1.2 cents, plus 2.9 cents—a total of 4.1 cents—must be deducted from Mr. O'Connor's margin of 5.05 cents per pound, leaviug a margin of .95 cents, or slightly less than a cent per pound, which still has to be reduced because of the error of premises and because of further factors which have to beconsidered to determine net profits.

It is puite evident some of the other pack ers did not show selling values in the country in which the goods were sold—a proceeding puite proper, as the forms submitted to be filled in were indefinite and ambiguous, thus permitting without charge of evasion a variety of interpretations as to the information required. It is thus possible that of all the figures submitted by the different packers that no two sets of costs and sales prices are determined at the same common point. It is this difference of interpretation of what was required that accounts for the difference of the alleged "margin" made by the different companies. Common conclusions, however, have been drawn by the author of the report from varying bases of premises.

The figures of the Egg business were sub-

(Second) The above margin of [illegible] pointed out that the author of the report charged out the Bacon figures at [illegible] the selling price [illegible] over cost, but he did not give us credit for the statements of other product, of which figures were submitted, [illegible] under cost. The reason of this was that through failure to inquire the Department [illegible] looked the fact that product [illegible] pork, and through the process of manufacture, go out as Bacon, or, in another instance, enter the factory as beef and go out in the form of canned meats; for example: much of the product which came in as pork, and which was entered on the pork sheet submitted to the Commissioner [illegible] and left the factory in the form of Bacon, and was therefore entered on the outgoing side of the Bacon sheet. [illegible] sales are increased by this amount over the incoming stocks of Bacon, and, likewise, the sheet showing the sales of pork is reduced by the amount that went out in the form of Bacon. If the Department takes one set of figures that show favorable to the company they should take another set of figures that show unfavorable, as the principle in either case is the same, and failt ure to do so looks as if the author of the repor was exercising more enthusiasm than sound judgment is his investigations.

(Third)—It is queried in the report, that "if the margin of 3.47 cents" alleged to have been made in 1915, "was satisfactory, why was it necessary to show increased margin in 1916?" Assuming again for the moment the soundness of the premises in asking such a question based on an erroneous 'margin" it will be found that the increased margin is chiefly absorbed in increased ocean freight rates and war risk insurance in 1916, of which apparently the author of the report was in ignorance.

The Company does not challenge either the legal or moral right of the Government to investigate business enterprises when public interest directs such an investigation should be made. If an investigation of the packing and meat business is ordered, the Company will place at the disposal of the Government not only the data it would be required to supply under Order-in-Council directing that inquiry be made, but will place the experience of its officers at the disposal of the investigating committee, if it is considered they can render any service which will be of value. The Company has not now—nor at any time during the fifty years of its operation—anything to conceal in method or practice of carrying on its business. It does, however, claim the right to conduct its export business without abusive comment from Government civil servants —especially when the conclusions drawn from the data asked for are improper and false.

One of Canada's chief export industries is the packing business. It is essential to the live stock industry, and along with other export industries, it maintains the financial stability of this country and should, providing it is on a sound basis, receive encouragement and not slanderous abuse. In view of the publicity given to the report of the Commissioner on the cost of living, the Company demands the same publicity in having an official Government investigation of this report to determine the truthfulness or untruthfulness of its conclusions. We do not seek public consideration as a company, but we do say that untruthful official statements, or statements the effect of which is to create an untruth, adversely affect the live stock industry of this country, which is so valuable and essential a wealth-producing power and, in the long run, are harmful to the very people that the statement seeks to benefit.

If the passing out of existence of a corporation such as The William Davies Company, or if nationalization of packing houses would materially and permanently reduce food prices, then in view of the present world tragedy it ought to be consummated without delay. The fact of the matter is, however, that with millions of people in Europe turning from producers into consumers because of war, and the tremendous destruction of food products incident to war, there is no remedy for the high prices of food while such conditions last, except the remedy of thrift and increase of production.

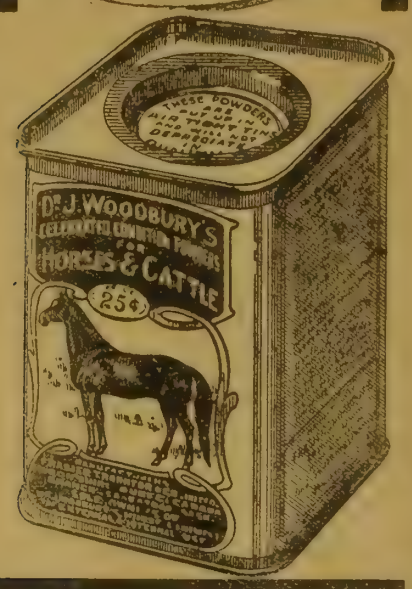
Long before there was talk of a Food Controller in the United States or Canada The William Davies Company urged the Government at Ottawa, in writing, to appoint a Food Controller with full power to do what he saw fit, as we realized at that time the upward tendency in the price of food commodities unless checked by official effort. At the most a great deal cannot be done in reducing food prices while currency is inflated and until the scale of prices of all kinds of commodities declines also. What can be done can only be done by a Food Controller. We wish to point out that nothing at all can be accomplished unless the data secured are accurately and clearly made and the deductions therefrom sound. Only public harm arises from dangerous incompetency in the haphazard coll lection and careless use of important figures.

As far as The William Davies Company is concerned this terminates all public statements of the Company, and it will pay no more attention to speculative and haphazard statements made either by newspapers or civil servants. The only further statement that will be made will be at an official investigation.

E. C. FOX, General Manager

Toronto, July 17th, 1917.

The William Davies Company, Limited



THE HORSE

EDUCATING THE COLT AS FAMILY'S FUTURE DRIVER

After securing an animal with good ancestry, careful training is of primary importance in a family horse. Without this, even the most amiable beast may become a nutsance; but with it, he is of inestimable value to any household. He will not only be the idol of the most matured members of the family, but will be a reliable friend of the youngsters not yet in their teens, who are not equal to a serious contest of tugging and sawing on the bit.

In order to bring the horse to this stage of serviceableness, he must from the very beginning of his course be taught the folly of fear when under his master's hands. This requires a great deal of tact, for he must literally be taught to depend on himself, and until this is accomplished he cannot be trusted.

An undertaking of this kind is not a light one, since the trainer himself is an important factor. He must be a true friend to the young horse in order to gain his absolute confidence, which is vitally important. If in previous handling as a colt the horse has not been fooled or needlessly abused, this friendship will be readily won, at least to the extent of following his master's guidance when in the face of imaginary danger.

To say that a horse becomes like his master, may not be a very elegant statement; but it nevertheless conveys a measure of truth. If the master is rough and excitable, the horse often becomes vicious and bawky. A man with a bawky disposition should not be allowed to handle the future family horse, especially if the colt is of a sensitive disposition. In case one has a spurt of temper when around the colt, one should apologize at the earliest possible moment. Throw the arms around the neck, stroke the velvety nose; and if one feels like shedding tears, all the better—the hand will have more of the sympathetic touch so characteristic of true friendship. Five minutes of this kind of vindication will teach the colt more than several hours of whipping or driving. Anyone who is afflicted with frequent explosions of his animal nature will render a more valuable service to his country by joining the army and ventilating his passions in the war zone, than posing as an expert horseman.

A trainer's attitude toward a colt should in many respects be like that of a father to his child. The father should never punish when angry, to appease his wrath. The same rule holds true with a trainer. Remember, you are instructing, teaching, not driving. One may drive a plug, but a colt never. It is true, at times, a father or a friend must inflict pain, but he must do it tactfully and advisedly. The colt may not be as mulish as the inexperienced driver thinks. He may not know; he must be taught. There must be an understanding as to what is expected; and if true friendship exists this will be done, with gratifying results to both concerned.

In case of danger or imaginary perils it may be necessary to take a step farther than the colt. Instead of jerking or whipping, go to his head and lead him. Show him by example that there is no need of fear. Get on the side nearest to the object, and in all probability the colt will brave the danger with you. At any rate, by getting on the opposite side from which the colt is crowding, one will have control of him and there will be less likelihood of a serious accident. Most horses have sound sense and a remarkable capacity for education if subjected to a thorough course of friendly treatment.

Be patient, kind and generous. Put the colt through the grades. Give him time to become handy and useful. Too many trainers expect more rapid progress in a dumb brute than in a human being. Do not neglect his education until he has reached maturity. Handle him every day with a view of teaching him something. By all means, avoid the short course, for it is the fatal course for the family horse.

The next important factor in the education of the family horse is to teach him to drive with a slack line. By no other means will a horse gain self-confidence more rapidly than by this method. When a little frightened, he will not expect a tight rein; he has learned to keep the road without perpetual manipulation; and when he suddenly discovers an object that causes him to shy, he will take a few steps to the side and in almost the same breath be back in the road. In some instances he will stop as though for a second thought, and before the occupants will have gained a comfortable poise he will have forgotten his spurt of fright.

In training the colt this art, he must never be punished. When appearing a little frightened, introduce him to the object; let him get acquainted. Don't hurry or get excited. Pauses here are eloquent, and the colt will remember and follow his master's elementary examples by not drawing conclusions before having sufficiently investigated the fancied or possibly real danger.

HOW NAVEL ILL AFFECTS YOUNG FOALS

There is considerable mortality among foals due to navel ill or joint disease. Probably the principal reason is that cold stormy weather has been so persistent that more than the usual proportion of foals has been born in filthy box-stalls. Usually many of the late spring foals are born in grass paddocks or out in still larger and cleaner pastures. Records of navel ill cases prove conclusively that foals born in locations contaminated by manure are particulrly subject ta the disease. When foals born in pasture contract the disease it is commonly found that the spot where it was dropped was near the watering trough or feed bunk or some such location where stock was accustomed to congregate.

Several kinds of filth germs have been identified with the disease, and that is one reason for the various differences in symptoms. Another reason is that germs seem sometimes to enter the veins, sometimes the arteries, and again the bladder. Tetanus germs are present in some cases, and the foals die of lockjaw symptoms.

The best safeguard is thorough cleaning and disinfection of the box-stall in which the mare is to be put as time of foaling approaches. It should be kept clean so long as mare and foal inhabit it. Bacteriological preparations, sometimes called serums, but more properly termed bacterins, are useful, especially if administered as a preventive instead of as a cure. Some breeders and veterinarians make a practice of giving a dose of bacterin at birth and another about a week later, whether symptoms appear or not. Some begin at the mare and give 2 or 3 doses within a month preceding foaling time. Of course, the freshly severed navel cord should be disinfected, and tincture of iodine or other reasonably strong germicide is suitable for this. Such disinfection should be repeated daily until the cord dries.

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LIVE STOCK.

THE HOGS THAT MAKE RAPID GAINS ARE THOSE THAT ARE KEPT HEALTHY

Every hog that has to feed, in addition to itself, internal and external parasites, such as worms and lice, is a source of wasted feed. Intestinal worms absorb the feed as it passes down the intestines and the common hog louse sucks blood from the hog.

Another source of loss is the direct influence these parasites have upon the vitality of the hogs. Hogs infested with parasites have their resistance to disease lowered very materially and are easy victims of disease attacks. The cases of pneumonia often occuring in bad weather, are often indirectly due to previous attacks of worms and lice. The ravages of hog cholera are increased by the lowering of vitality of the hogs.

Healthy hogs mean the maximum returns from feed given.

Worms and Their Life History

To thoroughly guard against the attacks of worms, the different worms and their life histories must be clearly understood.

At some period in the life of all worms affecting hogs, there is a time that they are out of the hog and existing in some other place.

Common Round Worms.—This is a long, yellow worm, frequently found in tangled masses in the small intestines. The eggs from the female worms pass from the hog in the faeces and are found in the soil of feed lots, stagnant pools of water, dirty drinking troughs and in the manure and bedding of the lots and quarters. Pigs feed in old feed lots, allowed to drink stagnant water from pools or dirty troughs and to root in lots that are never cleaned, pick up enormous quantities of these eggs. The eggs hatch in the stomach and intestines, begin to grow, develop into manure worms and lay more eggs. Time after time, the cycle is repeated wasting feed and debilitating the hogs in such lots and quarters.

The absolute necessity for sanitary conditions such as the thorough cleaning of feed lots at frequent intervals, the cleaning and disinfecting of quarters, the use of pure water in clean troughs of some pattern that prevents contamination by the hogs as much as possible and the use of new, clean pastures—these measures of prevention can be easily understood. There is a much greater work to be done in preventing infestation with worms than in killing them after the hogs have become unthrifty. Time spent in cleaning, disinfecting, insuring clean water and providing a rotation of clean pastures, will be time very valuably spent this summer and fall.

Thorn-headed Worm.—This is so named from the thorn-like projection on the head of the worm. The thorn is buried into the wall of the intestines, affording a safe attachment. The worm absorbs its food from the food passing down the intestines. The eggs from the females apparently pass a portion of their life in the common white grub, so common in clover sod and wood pastures. This grub is the larva of the May beetle or June bug. If a herd of hogs infested with the thorn-headed work are allowed to run in wood pastures or clover pastures, the eggs from the female worms soon infest the white grubs. Here is where trouble is stored up for future attacks upon other hogs. Non-infested pigs root up the grubs, eat them and the eggs of the worsm intestines, causing infestation.

Efforts should be made to prevent as far as possible the infestation of the white grub. If all the pigs are kept free from the thorn-headed worms, there is not so much chance of the grubs becoming loaded with the eggs. The thorn-headed worm is not as common as the common round worm, consequently is not so economically important. However, do not overlook it.

Lung Worm.—A great amount of coughing and unthriftiness in hogs is accounted for by many farmers by the supposed presence of lung worms. As a matter of fact, it is the writer's opinion that the worms are very often not present in these cases. Hogs are very subject to chronic bronchitis. due to colds and dust inhaled in dusty quarters. Draughty sleeping quarters are responsible for many cases of coughing and unthriftiness. The infestation of hogs with intestinal worms often cause general debility and the hogs may cough.

Before diagnosis of lung worms is made the presence of the worms should be demonstrated upon post mortem examination in sufficient numbers to affect the hogs. Look carefully for small, white worms in the bronchi of the lungs.

It is commonly supposed that some part of the life of these worms is spent in the soil of the feed lot. Clean lots and rotation of pastures will prevent lung worm infestation.

Kidney Worm.—This is another worm that suffers from having a very bad name. Whenever a pig or hog "goes down behind" the general diaggosis of kidney worm is commonly made. As a matter of fact, young hogs do not have kidney worms sufficiently developed to be affected. A history of a case of a hog losing control of its hind quarters other than

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the presence of kidney worms. An accident, feeding of unbalanced rations to sows and pigs, the suckling of a sow to a breaking point by a large litter of pigs, these are much more common as causes of trouble than the kidney worm. These causes should be promptly corrected.

The kidney worm is found in the fat and connective tissue just outside of the pelvis of the kidney. Usually the white tissues are thickened. There is very little known concerning the life history of the worm.

Treatment for Worms.

Many hog men have found that turpentine is very good for killing the worms that are found in hogs. The dosage is one teaspoonful for each seventy to one hundred pound pig. For results, the dose should be given for three mornings in succession followed by a dose of a tablespoonful of raw linseed oil. The turpentine and oil can be given in milk or slop. Don't try to drench the pigs. Get them hungry and let them drink the mixture.

A vermifuge still better than turpentine is a mixture of santonin and calomel. In the last few years, santonin has been rather difficult to obtain, but recently the supply is more abundant and more easily obtained. The most convenient method of administering is through the use of capsules or tablets. The dose is made up for each pig, and the tablet or capsule is flipped down the throat with a canine balling gun or fingers. The dose is dependent upon the size and weight of the hogs. The formula is 3 to 5 grains of santonin, and 5 to 8 grains of calomel per hundred pounds live weight. If the pigs weigh 50 pounds, the dose would be one-half the larger amounts, i.e., 2½ grains santonin, and 4 grains of calomel. If the hogs weighed one hundred pounds, the dosage would be the medium, i.e., 4 grains santonin and 6 grains calomel. When one considers there are 480 grains of santonin in an ounce of the drug and only 2½ grains is a dose for a small pig, a high price per ounce does not mean a high price per pig.

For the best results with a vermifuge, the pigs should be starved for at least twelve hours and better for twenty-four hours. This starvatiin empties the intestines so that the drugs are not diluted with a lot of feed.

Conditioners or Tonics

Unless pigs are unthrifty, the feeding of a tonic or conditioner is not advisable. Hogs if fed intelligently upon proper rations in sanitary lots, properly housed, kept free from lice and worms, and given plenty of exercise, will not need tonic. However, if a tonic is desired either of the following mixtures may be used:

1. Copperas, 3 parts; sal soda, 3 parts; Glaubers salts, 3 parts; salt, 3 parts; charcoal, 5 parts; powder and mix.

2. Three bushels charcoal; 8 lbs. salt; 2 quarts air-slaked lime; 1 bushel wood ashes; 1¼ lbs. copperas dissolved in water, and sprinkled over the mixture.

Both the adult lice and nits or eggs are killed by a thorough application of crude oil or fuel oil. Good coal tar dips kill adult lice, but they usually do not harm the eggs. In summer time, dipping tanks are the best methods of covering the hog's body with the oil or dip. In using oil, the tank is two-thirds filled with water, and from three to four inches of il is poured upon the top of the water. In winter, sprinkling or spraying with a pump or sprinkling can is advisable.

Prof. J. H. Starr.

THE VIGOROUS AND PROFITABLE SOW

There is a wide diversity of opinion among farmers and breeders of swine as to how much flesh the brood sow should carry in order that she may produce the best results as a breeder. Farmers are quite apt to neglect their brood sows and allow them to become too much run down in flesh to secure the best results, and the breeders who are anxious to obtain the best results err in the other direction and overfeed their sows until they take on too much fat to produce the most vigorous pigs.

A sow running down in flesh when bred, the same as the one too fat, is likely to disappoint her owner in the size of her litter and the quality of the pigs. The fact that a vigorous sow in comparatively low flesh will produce large litters has no doubt led to the belief that the sow should be thin when doing this important work. On the other hand the small weak pigs born to the sow in high flesh are no doubt parent to the belief that a sow should not be in high flesh while reproducing her kind.

These conclusions are correct, if appearances at farrowing time only are considered, but if the observations extend over a period of a few weeks it will be found that the fat sow and her pigs have an advantage over the thin sow and her litter. The strong pigs from the lean sow start well on account of their strength but they soon sap the stored up strength of their mother and have her exhausted before they begin to eat from the trough, with the consequent result that they come to a standstill for a time.

The smaller pigs from the fat sow grow right along from the start and by the time their dam is reduced in flesh condition they are ready to eat from the trough. The kind of flesh the sow carries has all to do with the quality of her litter. Too much fat produces fever and a lack of exercise makes her a dangerous mother. She is feverish and vicious and the pigs will suffer from this if they are fortunate enough to live. If her flesh is properly laid on by eating a variety of food, including pasture and forage crops, she will be in first class condition to give her pigs a good start in life.

It is very seldom that sows have an inclination to eat their pigs when they farrow in the pasture during the summer. A sow carrying a proper amount of flesh usually does well with her litter and she will remain quite longer after farrowing, while the lean sow will be up looking for something to eat.

CALF REARING PRECEPTS

1. Feed regularly.
2. Feed at proper temperature, (100 degrees F.)
3. Feed individually.
4. Do not overfeed.
5. Make all changes gradually.
6. Give access to fresh water and salt.
7. Keep all utensils clean.
8. Provide clean pens with plenty of light and sunshine.
9. Provide plenty of bedding.

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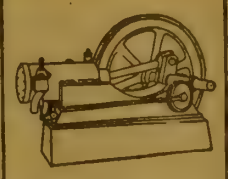

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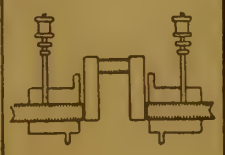

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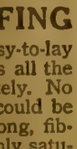

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POULTRY.

PART HEN CAN PLAY IN WINNING WAR

At a public meeting held under the auspices of the Organization of Resources Committee of Ontario in Belleville recently, Col. W. N. Ponton, K.C., gave a very interesting address on poultry raising and the part the industrious hen can play in winning the war. 'Economy, always a merit, is now a virtue," said Col. Ponton, "but productiveness, of which the egg is typical, is even greater than this." In making every waste place and back yard either a vegetable garden or a chicken run, the speaker contended, there would be the pleasure and power of co-operative service; it would be educative for the boys who as poultry arisers would feel themselves factors in the community success, and even a man who cultivated the domestic virtues and domestic fowl need never fear to be hen-pecked. He would be immune. Ducks were profitable and practical scavengers and with chickens to consume the over-plus and crusts and crumbs of comfort from the kitchen, there would be no waste. With plenty of eggs and egg producers, the cold storage man and beef barons could be beaten. Col. Ponton exhibited a British Parliamentary poster showing a splendid white hen wearing a broad khaki hand emblazoned with a royal crown, and the legend "Enlisted for the duration of the war." Poultry keeping, he continued, would be an ideal occupation for maimed soldiers after the war. "Get into the winged game now," said Col. Ponton, "and help to welcome the boys home when the piping days of peace return, with 'expanding breasts and merry thoughts," and a ready prepared well basted vocation in life. Meanwhile the wishbone must be the backbone. Let there be no bone of contention. Lay a good foundation for the future; the hen will attend to the rest. This is the age not merely of public utilities, which it is our right to guard and control, but also of private utilities and opportunities which it is ours to foster and encourage—conserve and develop. Agriculture and culture can go hand in hand. There is ample room for those who have the will to work."

The industrious and productive hen, the speaker continued, could help win the war. The hen was the symbol of motherhood which the British people understood best through the mother tongue of the New Testament. "How often—as a hen gathereth her chickens under her wings," etc., were the words of the Master. Thus we could help the undoubted scarcity in the Old Motherland, which for so long sheltered us under the wings of her Fleet. "As the chain," concluded the speaker, "is no stronger than its weakest link, so the circumference can be no stronger than the centre. Britain, our centre, calls. It is our crisis. Duty, loyalty, and self interest together appeal to us all to husband and develop our living resources. Abundant food supply with universal national manhood service spell "peace with victory" for Canada and the Empire and freedom and plenty for our children's children."

POULTRY BREEDERS, ATTENTION

At the present time when growing chicks are attaining an age of from one month to ten weeks, a disease (known as Coccidiosis) affecting the liver and bowels, is causing considerable losses. This disorder, according to Dr. Wickware of the Experimental Farm, is quite prevalent throughout Canada and is probably responsible for many deaths at present attributed to White diarrhoea. The disease is caused by a small egg-shaped germ which inhabits the first portion and blind pouches of the bowels. It produces inflammation of the bowels and liver, the blind pouches showing the most marked alteration. The changes in the latter may vary from a filling up with a reddish granular looking mass of soft consistency to hard cores composed of lining cells, blood, etc. The liver may show changes varying from a fairly normal appearance to large areas of a yellow color, which when cut into show a cheese-like centre.

Symptoms:—The chicks appear dull and isolate themselves from the remainder usually remaining in the hover or under the hen. The feathers become ruffled; wings droop; appetite is lost and occasionally the chicks will give utterance to a shrill cry, particularly when trying to pass material from the bowels. A white discharge is usually present, although it may be rather reddish in colour and the vent may become pasted with the material discharged. These are the prominent symptoms in typical cases, but chicks may also be badly affected and exhibit no outward appearance of disease until death suddenly takes place.

Treatment:—Treatment consists in dissolving fifteen grains of powdered Catechu in a gallon of drinking water. This should be kept constantly in front of the chicks and should be changed every two days.

Prevention:—Prevention consists in the isolation of all ailing chicks from the remainder of the flock and the thorough disinfection of all the quarters and funs, which may be accomplished by the application of a lime-wash solution made by adding two and one-half pounds of stone lime to a pail of water, to which is also added one-half a teacupful of a good commercial disinfectant. This should be applied full strength with a spray pump, brush or old broom, to all parts of the quarters, brooder houses, etc. The feeding troughs should be cleansed daily by scalding with boiling water and special care taken to prevent the chicks from getting their feet either in the feeding utensils or drinking fountains as the disease is transmitted from bird to bird in this way. The floor of the brooder houses should be covered with a coating composed of nine parts of sand and one part of air-slaked lime, and if the droppings are not removed daily, they should at least be mixed with a fair amount of air-slaked lime to insure proper disinfection. If the runs are not large, it is also advisable to cover them with a thin coating of the above mentioned lime and either spade or plough them up. The chicks should be kept away from all adult fowls and carcasses of dead birds immediately burned, as burying only serves to keep the infection going from year to year.

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The Lock that Holds

WEED OUT OLD HENS AND MARKET THEM

Just after the broiler season is over, when spring chickens are scarce and the fall run of poultry has not get begun, is a good time to weed out all the hens you will not want to breed from another season and put them on the market. They will bring very fair prices at this time, if marketed in first-class condition.

They should be penned in a comparatively small enclosure and fed all they will eat for about two weeks. This fattens them rapidly unless they are over large to start with, and makes feeding profitable even at present high prices of grains.

The pen should be so arranged that the hens will have shelter from the sun during the hot hours of the day, and their sleeping quarters should provide plenty of fresh air at night.

Heavily fed hens will drink freely and they should be encouraged in this. They also need lots of grit to assimilate heavy feeding.

Feed all the hens will eat three times a day, but do not leave any soft food in the troughs between meals. Some scattered grain may be left in the pen, but not enough to prevent them from eating quantities of the soft feed which is more readily assimilated.

In the morning feed a mixture of two parts wheat middlings or "red dog" flour and one part cornmeal. Add a little salt, dissolving it in the water used in the mixture to insure even distribution. If skim-milk is available, use this instead of water in mixing the mash. Mix it into a stiff dough—the stiffer the better. At noon give a light feed of oats, and later in the day give the fowls all the corn they will eat, along with a good feed of beef scraps or cut bone.

Hens so fattened on pure, sweet products come to the table with fat globules deposited among the meat fibers, which simply melt throughout the flesh in cooking. Thus the carcass is tender and sweet, and without the stringiness commonly found in old hens. Good marketing methods often result in a gain in the price hens bring per pound, as well as in the number of pounds.

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I am a woman.

What I have suffered is a far better guide than any MAN'S experience gained second-hand.

I know your need for sympathy and health.

And the treatment that gave me health and strength, new interest in life, I want to pass on to you, that you, too, may enjoy the priceless boon of health.

Are you unhappy, unfit for your duties? Write and tell me how you feel and I will send you ten days' FREE trial of a home treatment to meet your individual needs, together with references to women in Canada who have passed through your troubles and regained health; or you can secure this FREE treatment for your daughter, sister or mother.

If you suffer from pain in the head, back, or bowels, feeling of weight and dragging down sensations, falling or displacement of internal organs, bladder irritation with frequent urination, obstinate constipation or piles, pain in the sides regularly or irregularly, bloating, dyspepsia, extreme nervousness, depressed spirits, melancholy, desire to cry, fear of something evil about to happen, creeping feeling up the spine, palpitation, hot flashes, weariness, sallow complexion, with dark circles under the eyes, pain in the left breast or a general feeling that life is not worth living, I invite you to send to-day for my complete ten days' treatment entirely free and postpaid, to prove to yourself that these ailments can be easily and surely overcome at your own home, without the expense of hospital treatment, or the dangers of an operation. Women everywhere are escaping the surgeon's knife by knowing of my simple method of home treatment, and when you have been benefited, my sister, I shall only ask you to pass the good word along to some other sufferer. My home treatment is for all,—young or old.

Read My FREE Offer:

To Mothers of Daughters. I will explain a simple home treatment which speedily and effectually dispels green-sickness (chlorosis), irregularities, headaches and lassitude in young women, and restores them to plumpness and health. Tell me if you are worried about your daughter. Remember it costs you nothing to give my method of home treatment a complete ten days trial, and if you wish to continue, it costs only a few cents a week to do so, and it does not interfere with one's daily work. Is health worth asking for? Write for the free treatment suited to your needs, and I will send it in plain wrapper by return mail. Cut out this offer, mark the places that tell your feelings, and return to me. Write and ask for the free treatment to-day, as you may not see this offer again. Address:

MRS. M. SUMMERS, Box 309 Windsor, Ontario

FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

LIFE'S WEAVER

(Wm. J. Robinson in Boston News Bureau.)

I sit today at the loom of life and
weave and weave and weave:
The warp is laid by hands divine; but
the wept is where I grieve.
For every moment in everyday the
shuttle flies through and through!
And the patterns I scheme
With the dreams I dream
Are made up of the things I do.

I have naught to do with the warp I
tread,
The threads are already set,
But my duty lies, as the shuttle flies,
In the fabric I'm weaving yet.
Smiles and tears,
Kind words and fears,
Are wound on the bobbins I wind.

And every thoughtless word is there
And every word unkind,
And every act I would fain forget,
And the thoughts that were dark
and vain,
I view in the fabric of life I weave,
And see them and see them again.
But I sit and weave with an aching
heart, and a
world of intense regret,
And tears fall fast
As I view the past,
And I pray that I may forget.

But out of repining and soul recoil
I look in the future and see,
My life stretch out in its future plan,
And a new hope comes to me.
I know not the length of the warp I
view,
I know not my given span,
But into the fabric I yet may weave,
I'll put all the best I can.
Smiles and kindness and patient care,
Unselfishness, service and love,
Harmony, sunshine, faith and hope,
And thus my contrition prove.
When the "Throw" shall fall from my
nerveless hand,
And the shuttle lies at rest,
May I hear the voice of the Master
say,
**"You've done what you thought
was best!"**

SAVING MOTHERS

The United States Department of Labor, Children's Bureau, Washington, have issued some excellent leaflets on the care of MOTHERS and BABIES, from which the following facts have been gleaned:

More women 15 to 45 years of age die from conditions connected with childbirth than from any disease except tuberculosis. About 15,000 deaths from maternal causes occur annually in the United States, and the available figures for this country show no decrease in the maternal death rrte since 1900. Maternal deaths are largely preventable by proper care and skilled attendance.

These 15,000 deaths do not measure the full extent of the waste. They are merely a rough index of unmeasured preventable illness and suffering among mothers. Furthermore, certain diseases of early infancy are closely connected with the health of the baby's mother and the maternity care she has received, and these diseases cause about one-third of all the deaths occuring among babies under one year of age. More than 75,000 babies die each year from this group of diseases because they do not have a fair start in life.

The life and health of the mother are in every way important to the well-being of her children. Breast feeding through the greater part of the baby's first year is his chief protection from all diseases, and mothers are much more likely to be able to nurse their babies successfully if they receive proper care before, at, and after childbirth.

The expectant mother should at once consult a physician. She should remain under supervision so that any dangerous symptom may be discovered as soon as it appears. She should learn how to take care of herself, and she should have proper food and rest and freedom from anxiety. When the baby is born the mother needs trained attention. A difficult maternity case is one of the gravest surgical emergencies. Many people do not seem to understand that in any case complications may arise which can be met safely by prompt and skillful scientific care but which at the hands of an unskilled attendant may cost the life of mother and child or both. Even after confinement the mother needs continued supervision and rest until her strength has returned.

Thousands of mothers, born in city and country, do not have the essentials of safety, partly, perhaps chiefly, because they do not realize the dangers involved in lack of care or else accept the dangers as unavoidable. Many women are at present unable to obtain proper care, but when all women and their husbands understand its importance and demand it for every mother, physicians will furnish it, medical colleges will provide better obstetrical training for physicians, and communities will see to it that mothers are properly protected.

Little has been done as yet to show women that much of the waste of mothers' lives and healthy is unnecessary. Even less has been undertaken by communities to provide protection for them. Many communities which have studied their typhoid and tuberculosis death rates and have undertaken costly measures to reduce them have been heedless of the death rates among mothers. It is not strange therefore that since 1900 the typhoid rate for the country as whole has been cut i nhalf, and the rate from tuberculosis has been markedly reduced, while the death rate from maternal causes has shown no demonstrable decrease.

Just how the importance of adequate maternity care is to be made plain to a community and just how skilled care and instruction are to be made available for all mothers, are of course local questions to be considered by each community. The prenatal clinics and prenatal nursing which are being developed in many cities suggest a method of supervision and instruction which might well be extended. Even in cities where such work is carried on and where good hospitals are numerous, the number of mothers reached it small in comparison with the number who bear their children without adequate means.

Difficulties are perhaps greatest in rural districts where the sheer inaccessibility of a physician is often added to the other elements of the problem. Here a public nursing service with headquarters at the county seat, or other accessible town, would probably be the first step, placing at the service of every expectant mother a visiting nurse who is especially equipped to give her information about personal care and to watch for symptoms of trouble demanding medical advice. As such a nursing service develops, its headquarters might become, with the cooperation of physicians, a sort of maternal and child-welfare center to which not only expectant mothers, but also mothers with babies could come for instruction, examination, and advice. If no general hospital were conveniently near, a cottage hospital for mothers and babies might ultimately form a part of such a center.

A more general use of existing provisions for scientific maternity care and the extension of provisions for such care in all types of communities should serve to reduce the number of deaths among mothers and babies and to improve the health and general condition of children throughout the country. A full discussion of the causes and prevention of maternal deaths and an analysis of available statistics are contained in a report on Maternity Mortality, published by the Children's Bureau.

The Children's Bureau has several publications which are of interest in connection with work for the welfare of mothers and babies. Write for this literature, which is distributed free. Be sure to ask for the bulletin on "Baby-Week Campaigns."

PATRIOTISM AND BABIES

How the strength of the nation is being impaired by the conditions which make babies sicken and die, and what some two thousand communities have done to awaken interest in the conservation of the youngest citizens, are briefly review in a new bulletin an Baby-Week Campaigns which has just been issued by the Children's Bureau of the U. S. Department of Labor.

Approximately one in ten of all the babies born in the United States dies before completing twelve months of life, and the Children's Bureau says:

"It was once thought that a high infant death rate indicated a greater degree of vigor in the survivors. Now it is agreed that the conditions which destroy so many of the youngest lives of the community must also result in crippling and maiming many others and must react unfavorably upon the health of the entire community."

Two thousand one hundred communities have reported to the Children's Bureau the details of a Baby Day or a Baby Week by which they called attention to the need of protecting their babies. Ingenious devices for exhibits, new methods of distributing pamphlets on baby care, ways in which information on local conditions are secured and published, and other interesting features from these local reports are descibed in the bulletin as suggestive for those who are planning a similar campaign.

These campaigns could easily be carried out in New Brunswick and if all societies would write for the free literature in connection with them, they would have a basis upon which to work.

SOME TYPICAL COMBINATION DISHES

Spaghetti or maraconi or rice cooked with tomato, onion, or green pepper, and cheese, or cheese sauce, served with White, graham, or wholewheat bread, and butter, and stewed or sliced fruit and simple cookies.

Boiled rice baked (scalloped), with minced left-over meat, chipped beef, or fresh or canned fish, served with beet, dandelion, or other greens, dressed with peanut, olive, cottonseed, or other table oil, with vinegar or lemon juice enough to flavor the dressing, and wheat, corn, or rye bread and honey.

Boiled rice scrambled with eggs, served with a succulent vegetable such as stewed tomatoes, canned corn, green peas or beans, and bread and butter, and nuts and raisins or other dried fruits.

Green peas and canned salmon with white (i.e., thickened milk) sauce, served with corn bread and sirup.

Meat pie (meat from inexpensive cuts) or fish pie with flour or potato crust, served with turnips, carrots, onions, or parsnips, and biscuts with butter, with jam or jelly or hot chocolate.

Mashed potato with creamed codfish, (i.e., cream sauce containing a little salt codfish), served with lettuce with oil and vinegar or lemon-juice dressing, and crackers and cheese or peanut butter sandwiches.

Meat stew (inexpensive cuts or left overs), with turnips or other vegetables, including left overs, and with rice in the stew or uour or cornmeal dumplings; or fish chowder made from fresh, canned, or dried fish, crackers, skim milk, and onion, served with bread and butter, and fresh or stewed fruit.

Boiled dinner .corned beef or corned mutton cooked with fresh vegetables, as potatoes, turnips, carrots, etc.), served with bread and butter, and apple or other fruit and breadcrumb pudding.

Cowpeas boiled with pork and combined with boiled rice, served with a green vegetable or vegetable salad, and honey, brown sugar, maple sugar, or date sandwiches.

Beans baked with pork or bacon, served with Boston brown bread and butter, and tart apple sauce and cookies.

Beans and cheese roast (a mixture of cooked beans and cheese prepared

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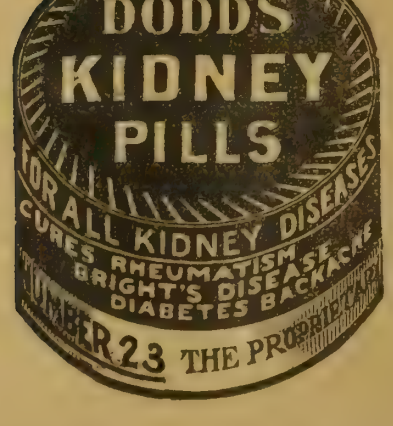

and seasoned like a meal loaf- with tomato sauce or brown gravy, served with sweet peas and bread and butter, and sliced orange and banana or other fruit.

TO CAN FRUIT WITHOUT SUGAR

Canning Specialists Say Boiling Water May Be Used Instead of Sirup

Fruit for use in pies or salads or as stewed fruit can be canned without the use of sugar, according to the canning specaillists of the day. Any fruit, they say, may be successfully sterilized and retained in the pack by simply adding boiling water instead of the hot sirup.

Canning Fruits Without Sirup

Can the product the same day it is picked. Cull, stem, or seed, and clean the fruit by placing it in a strainer and pouring water over it until it is clean. Pack the product thoroughly in glass jars or tin cans until they are full; use the handle of a tablespoon, wooden ladle, or table knife for packing purposes. Pour over the fruit boiling water from a kettle, place rubbers and caps in position, partially seal if using glass jars, seal completely if using tin cans. Place the containers in a sterilizing vat, such as a wash boiler with false bottom, or other receptacle improvised for the purpose. If using a hot-water bath outfit, process for 30 minutes; count time after the water has reached the boiling point; the water must cover the highest jar in container. After sterilizing, remove packs, seal glass jars, wrap in paper to prevent bleaching, and store in a dry, cool place.

If you are canning in tin cans it will improve the product to plunge the cans quickly into cold wator immediately after sterilization. When using a steam pressure canner instead of the hot-water bath, sterilize for 10 minutes with 5 pounds of steam pressure. Never allow the pressure to go over 10 pounds.

STALE-BREAD RECIPES

Vegetable Soup Thickened with Bread Crumbs

1 quart skim milk, 1 cup bread crumbs, or 2 large slices stale bread, salt, small amount spinach or outer leaves lettuce (not more than 4 ounces). 1 small slice onion.

Cut the vegetables into small pieces and cook with the bread crumbs in the milk in a double boiler. If a large quantity is being prepared, as in a school lunch room, for example, put the vegetables through a meat chopper. In this case slices of bread may be ground with the vegetables in order to absorb the juice.

Pancakes

1 cup crumbs, 2¼ cups skim milk, ½ cup flour, 3 teaspoonfuls baking powder, 1 teaspoonful salt, 1 teaspoonful sugar, 1 teaspoonful melted butter, 1 egg.

Soak crumbs in milk for three-fourths of an hour. Then add other ingredients and cook on a hot griddle, like ordinary pancakes. If sour milk is used, substitute one-half teaspoon baking soda for the 4 teaspoons baking powder.

Gingerbread

1 cup molasses, ½ cup boiling water, 1 1-3 cup fine bread crumbs, 2-3 cup flour, 1½ teaspoon ginger, ½ teaspoon salt, 4 teaspoons melted lard or other fat, 1 teaspoon baking powder.

Add water to molasses and combine with the dry ingredients mixed together, then add fat, and beat. Bake for about 25 minutes in a hot oven.

Indian Pudding Made With Crumbs

1 cup fine crumbs, 1 quart skim milk, 1-3 cup sugar, ¼ cup molasses, 2 tablespoons melted butter or other fat, ¼ teaspoon ginger, ¼ teaspoon cloves, ¼ teaspoon cinnamon.

Scald the crumbs in milk; add the other ingredients; and bake 1½ hours in a slow oven. This pudding may be made with any kind of bread crumbs, but it furnishes an especially good means of using up stale corn bread.

Egg Toast.

6 slices bread, 1 egg, 1 cup milk, skim milk, or water, ¼ teaspoon salt.

Beat the egg, and add the liquid and salt. Let the bread soak in the mixture until slightly soft. Then fry to a light brown on a hot, well-greased pan or griddle. More eggs may be used if available.

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HOME-MADE ICELESS REFRIGERATOR

A companion convenience to the fireless cooker for the hot, summer days is the iceless refrigerator, or milk cooler. This consists of a wooden frame, covered with canton flannel or some similar materail. It is desirable that the frame be screened, although this is not absolutely necessary. Wicks made of the same material as the covering rest in a pan of water on top of the refrigerator, allowing the water to seep down the sides. When evaporation takes place the heat is taken from the inside, with a consequent lowering of the temperature. On dry, hot days a temperature of 50 degrees can be obtained in this refrigerator. The following description will aid in the construction of this device:

How to Make Device

Make a screened case 3½ feet high with the other dimensions 12 by 15 inches. If a solid top is used, simply place the water pan on this. Otherwise fit the pan closely into the opening of the top frame and support it by 1-inch cleats fastened to the inside of the frame. Place two movable shelves in the frame, 12 to 15 inches apart. Use a biscuit pan 12 inches square on the top to hold the water, and where the refrigerator is to be used indoors have the whole thing standing in a large pan to catch any

drip. The pans and case may be painted white, allowed to dry and then enameled. A covering of white canton flannel should be made to fit the frame. Have the smooth side out and button the covering on the frame with buggy or automobile curtain hooks and eyes, arranged so that the door may be opened without unfastening these hooks. This can easily be done by putting one row of hooks on the edge of the door near the latch and the other just opposite the opening with the hem on each side extended far enough to cover the crack at the edge of the door, so as to keep out the war, outside air and retain the cooled air. This dress or covering will have to be hooked around the top edge also. Two double strips one-half the width of each side should be sewed on the top of each side and allowed to extend over about 2½ or 3 inches in the pan or water. The bottom of the covering should extend to the lower edge of the case.

Place the refrigerator in a shady place where air will circulate around it freely. If buttons and buttonholes are used on the canton flannel instead of buggy hooks, the cost should not exceed 85 cents.

FIDDLING

By George Matthew Adams in "Good Housekeeping"

FIDDLING is good for the soul—sometimes. If you fiddle away when there is important work to be done or while some one else is doing what you should do, that is not the time to fiddle. But if you have done the best you know how, and yet everybody seems to find fault with you, get your fiddle and fiddle away. It will cheer your heart, stimulate your brain, and rest your body.

But when at work, forget fiddling. Always leave the fiddle at home. In imagination, even, let not your mind go back to its fiddle.

What kind of a fiddle? There are many kinds. Not literally the one with strings. Maybe a good book, or an hour or so at a wholesome sport, or a journey among the trees and flowers and birds in the country. It's the spirit of fiddling at the right time. Old Nero fiddled away as his Rome burned. But at that, he was fairly level-headed. For could he have done anything else as effective as fiddling away at his fiddle? He wasn't the fire and hose company.

Own a fiddle of some sort, and learn to fiddle. Your nerves will thank you and your friends will thank you. But fiddle in fiddling hours.

USES OF STALE BREAD

There is nothing new in the idea of using bread crumbs in cookery, and most housekeepers are in the habit of having some on hand for use in scalloped dishes, stuffing for meat, puddings, etc. Few realize, however, how much more generally they might be utilized. Many commercial bakers use bread crumbs to some extent as a substitute for the flour in many sorts of cakes, cookies, puddings, etc. Crumbs may also be used instead of flour and starch for thickening soups and sauces.

Any bits of bread which can not be eaten at the table should be saved and crumbed for use in cooking. Some housekeepers keep two kinds on hand; one, stale crumbs made chiefly from the inside of the loaf and suitable for use in the place of flour, and dried crumbs made from any part of the bread browned a little in a very slow oven and crushed fine to be used in scalloped dishes, for the coating of croquettes or other fried foods, or wherever a crusty fine crumb is needed. To prevent their growing musty, crumbs should be kept in dry, air-tight containers. Fruit jars are often convenient for the purpose.

Toast

Toast is another form in which partly stale bread can be made attractive. In many families it is served only for breakfast, luncheon, or supper, but the custom which many high grade restaurants have adopted of serving thin, crisp, hot toast with the more substantial meals, might well be followed at home. Such dishes as chopped meat with gravy, creamed chicken or fish, poached eggs, melted cheese, cooked asparagus, Swiss chard, baked tomatoes, etc., are served very commonly on toast. Cream or milk toast (that is, toast with a rcream sauce or milk gravy, perhaps flavored with a very little chipped beef, salt fish, or other savory) may be used as the main dish at breakfast, luncheon, or supper.

As A Breakfast Food

Another good way of using stale bread or of treating bread so that it shall not become stale, is to put the pieces in the warming over or on the back of the stove and leave them until they are crisp and a delicate brown throughout. Crush with a rolling pin and use with cream as a cereal.

THINGS WORTH KNOWING

A notebook for suggestions kept in the shopping-bag will be found useful when a friend tells you of a new shop, a new recipe or a new book. Having something at hand in which to write down the suggestion will save it from being lost entirely.—Mrs. T. A.

When serving a dinner without help make a list beforehand of all the articles to be placed either on the table

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in this County to retail Rawleigh products exclusively—$100.00 a month is being made by many men now selling our goods. Applicants must be live and industrious and have means for starting expenses, horse, wagon, etc., also furnish contract signed by two responsible men. Rawleigh products are household necessities—we have eight factories and branches—address, giving age, occupation and references—

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Lantic Sugar

"Pure and Uncolored"

Lantic pure Cane Sugar is best for preserving because of its purity, high-sweetening power and "fine" granulation.

2 and 5-lb. Cartons
10, 20 and 100-lb. Sacks

Lantic Library of Cook Books, free for Red Ball Trade-mark cut from Carton or Sack.

ATLANTIC SUGAR REFINERIES
Limited, Montreal

161

Weak From Birth

Harriston (Ont.) Child Saved by Dr. Cassell's Tablets.

MR. CORBY, HARRISTON P.O., ONT., writes:—"Just a few lines in praise of Dr. Cassell's Tablets. Our little girl was weak from birth, and though we tried doctor's medicine and other things she got no better. She just lay in her cot and cried, and neighbours all said we could not save her. Then I read about Dr. Cassell's Tablets. I said to my wife, 'while there's life there's hope'; we will try these Tablets. We did, and from the first box we could see a change in the child. She seemed to rest more comfortably, and slept well at night. We kept on giving Dr. Cassell's Tablets till she was 18 months old, and now at three years I don't think there can be a healthier child in the whole Dominion.

Little Miss Corby.

The doctors said she had stomach trouble, and that her chances were small, yet Dr. Cassell's Tablets cured her. They have been worth their weight in gold to us, for we were just giving up hope of saving our little daughter. I don't think there is any other medicine for children like Dr. Cassell's Tablets. I may say my wife has taken them for nerves, and they have built her up splendidly. Publish this letter if you like; it may help others as the Tablets helped us."

Bright, healthy, happy children, full of life and activity—every mother wants her babies to be like that. Are yours? If they are not, if they are weakly or fretful we say it in all sincerity—the surest way you will ever find to build up strength and vitality in their little frames is a course of Dr. Cassell's Tablets.

Dr. Cassell's Tablets

FREE SAMPLE.
On receipt of 5 cents to cover mailing and packing, a generous free sample will be sent at once. Address: Harold F. Ritchie & Co., Ltd., 10, McCaul-street, Toronto.

Dr. Cassell's Tablets are Nutritive, Restorative, Alterative, and Anti-Spasmodic, and the recognised remedy for

Nervous Breakdown	Sleeplessness	Mal-nutrition
Nerve Paralysis	Anæmia	Wasting Diseases
Infantile Weakness	Kidney Trouble	Palpitation
Neurasthenia	Dyspepsia	Vital Exhaustion

Specially valuable for nursing mothers and during the Critical Periods of life.

Sold by Druggists and Storekeepers throughout Canada. Prices: One tube, 50 cents; six tubes for the price of five. War tax, 2 cents per tube extra.

Sole Proprietors: Dr. Cassell's Co., Ltd., Manchester, Eng.

Advertise in the Maritime Farmer for Results

CARBONOL

A Blessing in the Home

IF there is one thing you need around the home or farm, it is Carbonol. Good in a hundred different ways. Helps housecleaning. A few drops in a pail of water makes a bucket of antiseptic, grease-killing liquid. In solution, it is wonderful for cuts on yourself or your live stock. Drives away flies, disinfects the sick room, makes barns, stables and henneries sanitary. You should not be without it. Get some now. In bottles.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

or on the sideboard or serving-table. Prepare this list as carefully as your bill-of-fare, for by doing so you will avoid rising from the table unnecessarily, and pleasant serving is as essential to a dinner as is good cooking.—B. M. D.

Eiderdown insoles for slippers will be found nice and warm ror the mother who has to get up several times in the night to care for a baby. Slippers that can be stepped into without picking up are the easiest to wear at night, and if these extra soles are glued into them they will not feel cold to the feet when one gets out of a warm bed. —N. S. M.

Had Awful Cramps

Last Summer.

Suffered Two Days And Nights.

"Dr. Fowler's" Cured Her.

There is no other kind of disease comes on one so quickly and with so little warning as an attack of cramps, colic or bowel complaint in one form or another.

A person may retire at night in the best of health, and before morning be awakened by terrific cramps followed by diarrhoea or dysentery.

At this season of the year when bowel troubles are so prevalent, it would be wise to take the precaution of having a bottle of Dr. Fowler's Extract of Wild Strawberry in the house, ready for any emergency.

Mrs. F. Martin, Brandon, Man., writes: "Last summer, in the hot weather, I was taken very sick in the middle of the night with awful cramps. I suffered two days and nights when the doctor was called in. He prescribed pills and powders which gave little or no relief. A friend said that if she were in my place she would order a bottle of Dr. Fowler's Extract of Wild Strawberry. It came about noon, and the next afternoon I was able to sit up. I highly recommend 'Dr. Fowler's' above anything else, for I have proved it to be the best bowel complaint remedy I know of."

"Dr. Fowler's" has been on the market for 72 years. Be sure and get the genuine when you ask for it. Price 35c. Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

To keep a child in bed and prevent him from crawling up on the pillow and out of the bedclothes, as so many little children do, try the following plan: Sew two loops of tape to the middle of the nightgown hem, one in font, the other in back; then pass a long piece of tape around the foot of the crib, bringing the ends up to tie through the loops on the nightgown when the child is placed in bed. In this way the child is kept in the same place all night, though still free to turn from side to side.—Mrs. R. S. B.

To cover a comforter during the day —one which is used at night for extra warmth—take a square yard of chintz or cretonne, harmonizing with the furnishings of the room, and sew on two opposite edges a ball fringe matching the material in colors. Roll the comforter in cylindrical shape inside the cover, which should have ribbons sewed on the opposite edges to tie the quilt into the cover. This roll, placed at the foot of a bed, is easy to get at when needed and will protect a pretty new down-quilt from dust.—Mrs. R. R.

A toy watering-pot used for house plants to spray them every day will keep them in good condition all winter. Very little water will fall on the floor, and if a mop or cloth is brought in at the same time as the watering-can the water may easily be wiped up. A piece of table oil-cloth, cut carefully and lightly tacked over the wall-paper under the windows, is a good protector. It may easily be removed in the spring. Plants that barely existed through the winter in the hot, dry atmosphere of a living-room have, with the daily spraying, thrived with a greenhouse luxuriance.—A. W.

A cover for the hot-water bottle of felt or cloth, with a flap fastened by a button and loop, will be a boon to any woman who drives in the country in winter. Fill the bottle with hot water before starting out, and slip it into the case; then hold it on the knees under the rug, where the hands may be warmed alternately.—A. Z.

To be ready for next Christmas take a little notebook, attach it by a string to your desk or some other place where you will see it through the year, and in the book allow a page for each of those to whom you give Christmas presents. Try to get some gifts or to make some every month. When you have done this, cross off in the book the names of those for whom you have provided. When the holiday season comes again if you have followed this plan you will find that you have more satisfactory gifts, have felt less worry in getting them ready, and incidentally have saved some expense. —P. M.

To keep comforters clean one woman makes her sheets about eight inches longer than those generally used, having a two-inch hem on one edge; then she works three small buttonholes in the hem, one in the centre, and the other two about fourteen inches fro mthe centre, on each side. On the comforter she sews three small buttons about eight inches from the top and the same distance apart as the buttonholes in the sheets. When the bed is made up every morning the upper sheet is turned over and buttoned to the comforter, so that the sheet is always next to the face of the sleeper.—Mrs. E. P.

POISON IVY AND ITS CURE

Poison ivy is found everywhere throughout the Provinces and everyone should know how to recognize it, its effect and how to treat it. Every summer many children are poisoned with it, and many a holiday is spoiled by not recognizing the three waxy green leaves which mark this plant as different from all others. These three leaves hang down from

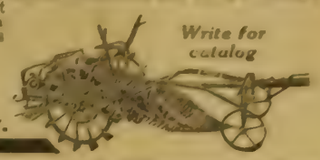
Eureka Potato Digger

Gets the Potatoes and separates where other diggers cannot

A strong statement, but an actual experience many times, saving growers more than the cost of the Digger. Ask us for the proof.

The Eureka elevator and duplex shaker provide more separation than other diggers. Large wheels and main gears supply ample power. Mostly malleable and steel, assuring frequent breakage and lost time. Growers report digging 80 or more acres without repairs. High clearance over shovel prevents weeds and vines bunching. Has vine-turner attachment.

6-ft. and 7-ft. sizes; several styles.



Write for catalog

FROST & WOOD CO., Ltd., St. John, N. B.

EUREKA MOWER CO., Box 1018, Utica, N. Y.

St. Andrew's College Toronto

A CANADIAN SCHOOL FOR BOYS
UPPER AND LOWER SCHOOLS

CAREFUL OVERSIGHT THOROUGH INSTRUCTION
LARGE PLAYING FIELDS EXCELLENT SITUATION
Autumn Term Commences Sept. 12, 1917

REV. D. BRUCE MACDONALD, M.A., LL.D.
HEADMASTER

CALENDAR SENT ON APPLICATION

erect stems six inches to a foot high, usually three, from a woody root stock. The root is woody and tough as leather, and can be pulled out of the ground in long strings, and this is the best way to eradicate it.

The flowers form a tiny white cluster in the axils of the leaf stocks, and these turn to greenish-white berries with miridian lines. The berries stay on the plant all winter and any part of the plant is poisonous if broken. The usual poison is, no doubt, from shoe laces which have stripped off the leaves in passing through them, and the hands that lace the shoes transfer the poison to the face.

The poison is insoluble in water and so washing only spreads it. The hands should be washed in methylated spirits, strong soap or hyposulphite of soda used in photography. The druggists sell sugar of lead dissolved in alcohol, but this is a poison and should be kept from the eyes.

Almond Cake.—Beat yolks of five eggs light, add pinch of salt, juice and grated rind of one-half lemon, one cupful of granulated sugar; beat; then add one cupful of pastry flour, beat well. Fold in stiffly beaten whites of eggs. Pour into two large greased layer cake tins, and bake twenty-five minutes. For filling mix three-fourths cupful of almond paste, two yoke, two teaspoonfuls of Mocha Extract, two tablespoonfuls hot water, and one and one-fourth cupfuls powdered sugar. When cold, ice and cover with chopped walnuts.

Piles

PILES, or hemorrhoids, are the cause of keen distress to thousands who do not yet know Dr. Chase's Ointment.

There are three kinds of piles—itching, bleeding and protruding. The itching, burning sensations usually increase at night, and the misery which many people endure is beyond description. The bleeding is sometimes so profuse as to cause death. Protruding piles are most dreaded because it is commonly believed that a surgical operation is the only means of cure.

If you will read the letters quoted in the daily press there will be little chance for scepticism as to the certainty of Dr. Chase's Ointment as a cure for every form of piles. Or, better still, ask your friends about it, for Dr. Chase's Ointment is recognized among doctors and druggists as well as by the public generally as the only real cure for this wretched disease.

Dr. Chase's Ointment, 60c a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

Do not be talked into accepting a substitute. Imitations disappoint.

Dr. Chase's Ointment

GOOD VENTILATION BRINGS HEALTH

(Continued from page 611)

machine. To get the greatest efficiency out of the machine, it must be given the best of care; and to accomplish the maximum production, the raw materials must be supplied and utilized in the most efficient way. For the farm animal, fresh air is an essential raw material, and unless it be supplied with other raw material, neither efficiency nor economy can result.

IT PAYS TO ADVERTISE IN THE MARITIME FARMER

Editor The "Maritime Farmer"

Owing to a long continued sickness, I have been unable to transact much business, and this must be my apology for delay in setting my advertising account.

In checking up my sales for the first year of advertising, I find that the cost of the latter represented less than 1½% on the total sales. Besides there is this to be taken into consideration. My stock is not a large one. Had it been so, I believe my sales would have been considerably higher and the selling cost proportionately lower, therefore. I think this is a remarkable showing and I thought you might be pleased to know of it. As an instance to demonstrate the effectiveness of advertising in the Maritime Farmer, I may inform you that the young bull which is described in my present advt. was sold within a week after it appeared. (This advt. ought to have been taken out after its first insertion, but owing to my sickness has been neglected). On another occasion where I made a quick sale, I received an enquiry and answered it, before I received the issue in which the advt. appeared! !

I am enclosing a change of copy, which please insert in next issue.

When I begin to feel a bit more fit, I propose to write you my impressions as I have received them regarding the present condition and the possible future of the pure bred live stock industry in N. B., which might be of some interest to you and to your readers.

Yours truly,
J. H. STOCKTON.

CALF NOT THRIVING

Not infrequently one of the calves in the herd may not be thriving and does not seem to chew its cud.

No animal can have a "cud" unless there is coarse food in the rumen to be re-masticated. The word "cud" is a misleading term anyway, as properly speaking there is no such a thing. The process of digestion of food in the bovine, in a word is somewhat as follows:

When coarse food is taken into the stomach it is partially chewed and then passed through the gullet into the first stomach or rumen, where the food is softened by being rolled about and mixed with the juices secreted in the paunch. The walls of the rumen then contract and force the food back again into the lower part of the gullet, which then takes on a reverse action and forces the food up into the mouth, where it is chewed over again. In swallowing the second time when fine, the end of the gullet is closed and the food forced into the second stomach. It is here again mixed with other juices and passed on to the third stomach, thence to the fourth and finally into the small bowel, where it is acted upon by the bile from the liver and pancreatic juices, where the nourishment is taken out and the refuse passed off and out of the body through the large intestine.

In order to diagnose a case, one must know more than the simple fact, that an animal is not well or that it does not chew its cud, although the latter is indicative of stomach disorder, if the calf has been feeding on coarse food, but may also be the result of other causes.

In cases of this kind it is probable that the calf's diet has not been favorable for good thrifty development and you will have to begin over again and correct this as far as possible.

The following treatment is suggested: Give two or three ounces of castor oil and after this has worked off get one-half pound each of hyposulphite of soda and gentian, mix well together and give one-half teaspoonful twice a day in two quarts of fresh, warm, sweet milk. Keep up this treatment until the calf begins to gain nicely and then increase the feed and gradually change to skim milk and give tender grass, clover or alfalfa and equal parts of oil meal, bran, corn meal and ground oats mixed and fed dry. Give only a small amount at first and increase as the calf improves in condition and growth. Give all the fresh, clean water the calf will drink and keep all pails from which it is fed scrupulously clean.

CARE OF CALF'S DIET

If we are ready to admit that a cow's milk is too good for a cow's calf and that it is economically profitable to rob the future cow for the sake of present gains, then it is quite un-

Had To Sit Up To Sleep

Her Heart Was So Bad.

Through one cause or another a large majority of people are troubled, more or less, with some sort of heart trouble, but when it starts to beat irregularly, and every once in a while pains seem to shoot through it, then it causes anxiety and alarm.

Milburn's Heart and Nerve Pills will give prompt and permanent relief to all those suffering from any weakness of the heart or nerves.

Mrs. A. Russell, Niagara Falls, Ont., writes: "At nights I could not sleep, and had to sit up in bed my heart would beat so fast.

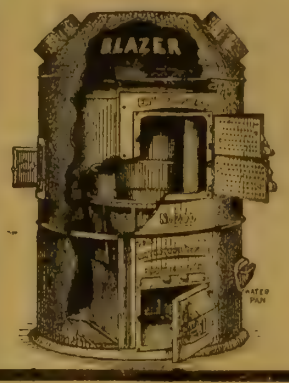
When I went to walk very far I would get all out of breath, and would have to sit down and rest before I could go any further. I was advised to get Milburn's Heart and Nerve Pills, and before I had used two boxes I could sleep and walk as far as I liked without any trouble."

Milburn's Heart and Nerve Pills are 50c. per box, at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

ENTERPRISE

Warm Air

Blazer Furnace



Everything that a furnace ought to be—scientifically correct in principle, convenient and economical in operation, constructed to last a lifetime, reasonable in cost of installation and guaranteed.

Write for free booklet containing much valuable information.

15

THIS BOOKLET FREE

Enterprise
FOUNDRY CO. SACKVILLE, N.B.

WE OFFER

Government of the Province of New Brunswick

5% TAX EXEMPT BONDS

Interest Payable Half Yearly on 1st February and 1st of August.

Principal Payable 1st August, 1937

Price 98 and Interest

A DISCOUNT OF 2 PER CENT.

J. M. ROBINSON & SONS,

ST. JOHN **BANKERS** MONTREAL

Members of Montreal Stock Exchange

necessary to know how to raise calves on separator milk or other artificial and unnatural foods.

The usual practice is to pour separator milk, sometimes cold, into a large trough which is never cleaned, and allow the calves to drink until they are satisfied. This method means potbellied, runty calves that never make the growth they should, even though they fortunately escape the ravages of indigestion.

Calves should not be given quite enough milk to satisfy their appetites. Each calf should be fed separately, carefully regulating the amount of milk by the size of the calf. The fat that has been removed by the separator may in a way be supplied by adding a handful of flaxseed meal to each bucket of milk. After drinking the milk, the calf will be kept busy eating the meal instead of sucking another calf's ears. The milk should always be warm, but never given to the calf directly from the separator, when it is frothy.

The milk buckets should be taken to the milkhouse or kitchen and sterilized at least once a day. Calves will soon begin to eat a little hay, and grain, like ground oats, should thereafter constitute part of the food ration.

If it pays to raise calves at all it pays to feed and care for them from the day they are born. Farm sanitation is the all-important thing in the care of live stock on the farm.

PRACTICE ECONOMY IN USING GASOLINE

Too great care cannot be exercised in the storage of the reserve supply of gasoline. Gasoline is very volatile, that is, it evaporates rapidly at all ordinary temperatures, and the vapor will make its way through very small orifices. For this reason old and battered gasoline cans, or cans which are not fitted with screw tops, are wasteful and dangerous. With the idea of securing both economy and safety, the gas engine owner should use extraordinary care in storing his gasoline in properly constructed and vapor-tight receptacles, that si if it is impossible or impracticable to store underground, incomparably the best way to do. Putting perfectly good dollars into gasoline and then allowing it to evaporate is mighty poor economy.

As a matter of fact, gasoline is so volatile that it will evaporate to some extent even when the temperature is very low. Of course, the higher the temperature the more rapid the evaporation. Because exposed gasoline will in time disappear entirely through the process of evaporation, one might get the impression that the whole bulk of the fluid is equally volatile. This is not the case, however. Gasoline is a mixture of compounds of different specific gravity, and when it is exposed to evaporation the lighter compounds are vaporized first. Now, it is just these lighter portions of the mixture which give gasoline as a whole its life and kick, and when these are allowed to evaporate, the quality of what is left behind necessarily suffers. What remains will of course operate the engine, but it will be deficient in quality and will not permit the engine to develop its full power.—A. B.

Concrete Machinery for Farm Use
(MADE IN CANADA.)

Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas. Engines.

Ask for Catalogue A

WETTLAUFER BROS., LTD., Toronto, Ont
DOUGLAS FULLERTON CO., Dartmouth, N.S.

PROTECTION OF CROPS

Crop protection means crop production. Canada loses over one hundred million dollars worth of her staple crops every year through the depredations of insect pests. A large portion of this loss could be prevented. As we cannot afford to lose the smallest portion of our grain and other food crops during the present critical period when the production of food is of supreme importance, the Dominion Department of Agriculture is making every effort to prevent, so far as possible, losses due to insect pests. Crop protection must go hand in hand with crop production.

Insect pests are not usually noticed or reported until they have caused considerable damage. Therefore it is urged that the closest watch be kept on all crops for the first appearance of any insect pests or damage. Immediately such damage is observed steps should be taken to control the outbreak in its incipient stage. If the pest or the method of control is unknown specimens of the insect and its injuries should be sent at once to the nearest of the following sources of expert assistance: The Agricultural Colleges, the Provincial Departments of Agriculture or their local District Representatives, the officer in charge of the nearest Dominion Entomological Station, or direct to the Dominion Entomologist, Department of Agriculture, Ottawa, for examination; and advice in regard to control measures will be furnished without delay. Letters and packages up to 11 ounces in weight may be mailed to the Dominion Entomologist, "Free," but postage will be required on letters or specimens sent to the other sources of advice mentioned.

Do not delay reporting insect outbreaks or sending inquiries; delay may involve serious losses that could otherwise be prevented. Write immediately, or telegraph if the outbreak is serious. Clean farming, the securing of vigorous growth in young plants and good cultivation are the best protective measures against insect attack. Keep all crops constantly under supervision for the first appearance of any damage in order that it may be checked without delay. Increased crop production involves increased protection against pests.

WHY SOILS PRODUCE POOR CROPS

Among the causes which may render land incapable of bearing satisfactory crops, the following may be mentioned:—

Want of lime may induce sourness. Its absence also affects the growth of many crops for which it is an essential plant-food particularly leguminous crops, lucerne, clovers, etc. Its presence or absence modifies the texture of the soil, clayey soils in which lime is deficient being generally much harder to work when wet and less friable on drying than those which are sufficiently supplied with it. Soils which are deficient in lime are less favourable media for the development of micro-organisms, particularly of the nitrifying orgasisms.

Deficiency in humus is a common cause of infertility. A soil deficient or wanting in humus is less able to withstand the droughty condition, lacks cohesion, and is easily blown or washed away, and is unfavourable to the growth of micro-organisms.

The remedy is to apply vegetable matter which, by its decay, will provide the necessary humus. This can be done by green manuring, by ploughing under stubble, by addition of garmyard or compost manure, etc.

Absence of bacteria, particularly of the nitrifying organisms, is prejudical to the satisfactory production of crops. The cause is generally one or other of those discussed above, either want of aeration, lack of lime or vegetable matter, sourness, badtillage or drainage, etc., and when such soils are restored to good condition the development of the nitrifying organisms will proceed normally.

Want of plant food is, of course, a common cause of infertility, especially in the case of land which has been exhausted by repeated croppings without manuring or rotation. Proper manuring, having due consideration to the requirements both of the soil and of the crop, is the remedy, provided that the land is in good condition; but the important fact must not be lost sight of that the mere addition of plant food is not sufficient unless the soil is in such mechanical condition that it can make good use of the manure applied.

Manuring alone is not likely to be of any benefit on land that is badly drained, sour, or in bad tilth.

SECOND HAND IMPLEMENTS ARE USUALLY USELESS

Habits grow. Some men seldom or never purchase any second-hand articles, while on the other hand some seldom or never buy anything new.

To condemn the practise altogether would be taking too radical a stand and yet there is no doubt but that many carry it too far. That there are frequently good second-hand articles for sale, no one will question, but when a man gets the habit so strongly fixed that his worn out stock is always made good in this way, he is no doubt carrying this practice beyond reasonable limits, and in whatever line he may be engaged his equipment is apt to be of a very poor quality.

Particularly is this true of the farmer buying agricultural implements. While it is true that at public sales there are often to be found in the offering implements and tools little the worse of wear, that have been taken care of and which are practically as good or nearly so as new, it is equally true that there are in almost every case some fit for the scrap heap or the firing line. This latter class is not only useless but in addition to the fact of their worthlessness there is usually a bill of expense connected with them from the start.

The age or state of repair is not the only feature to be noted in the purchase of second-hand goods. It often happens that perfectly sound and nearly new articles are positively useless. Nor indeed are absolutely new implements always useful; hence in the purchase of second-hand articles of this class one must be cautious lest he be deceived by fresh paint and attractive appearance.

While, as a rule the indiscriminate purchase of second-hand implements is poor business, and not to be encouraged for the foregoing reasons, it is plainly evident on the other hand that by using common sense and good judgment one may often secure a really good bargain. If a man is looking for a second-hand article for a certain purpose, he should first acquaint himself with the different types of machines on the market and their suitability for the work required of them. Having satisfied himself in this particular he is then and not until then, in a position to intelligently undertake the inspection of various makes of implements. In this respect, the first thing to note is the general appearance, which will indicate largely the kind of treatment the machine has been subjected to. If in a dilapidated condition, bolts loose and parts out of adjustment, it reveals bad treatment. If, on the other hand, it presents a tidy appearance with bolts tight and adjustments correct, it is quite evident that its care and usage has been wisely guarded by the operator.

The price justifiable for the second-hand article depends upon the condition it is in at the time of sale, and the terms upon which it can be bought as compared with a new machine. As a rule, unless the implement in question is in exceptionally good repair, not more than 50 per cent. of its original value should be paid, and yet there are cases in which a man would be justified in paying 75, 80 or even 90 per cent., having a knowledge of the implement and the kind of treatment to which it has been subjected.

In a word, whatever one's position or experience in this matter, he should avoid allowing the practice to become a habit and decide on a purchase only after careful examination and good judgment have been exercised.

GARAGE AND TOOL HOUSE

The combination of garage and tool house is one which possesses its advantages. There is always more or less tinkering to be done about an automobile and quite as often as not some tool is desired which is not a part of the regular auto repair kit. It is easily possible when building a farm garage to make it a little larger than would be necessary otherwise and in the back end of it install a work bench and plenty of racks, shelving and drawers for keeping the small tools about the place. The cost of additional material and labor will be slight. It is well to provide a second door so that one can get in and out of this part of the structure without having to squeeze past the standing automobile. The extra door will serve also to admit plenty of light and air at the work bench.—Orin Cooker.

DEATH TO THE FLIES

At the Florida Experiment Station we have found that 10 or fifteen per cent. solution of formaldehyde in fresh milk is efficient as a solution for killing flies. It is easily made and there is but little danger of poisoning. Sprinkle the floor of the barn two or three times a day with this solution. In other words, feed the flies whenever hungry. In a day or two there will be very few flies in the barn. Like every other remedy this must be used throughout the fly season.—John M. Scott.

HAVE YOU A LADDER?

Have you a good ladder on the farm or have you a cumbersome, short, heavy ladder made of 2 x 4 with pieces of boards nailed across, some of the pieces loose at one end and some gone entirely?

A good ladder is a fine investment for every farm, and extension ladders such as painters use can be purchased nowadays for about $3, depending upon the length. They are strong and well made and will reach the top of any stack a farmer can build, or the highest point of any building on his farm.

Suppose the home should catch fire on the roof? Fire inspectors say that many of the fires in the country start from sparks on the roof. How would you gain access to the roof? Have your ladder long enough and light enough to handle easily and quickly.

WIRING SCREEN DOORS

It is a very simple matter to put screen wire on that is stretched perfectly tight and smooth, instead of baggy as commonly seen. Lay the door on the floor and attach the wire to one end. Then nail or block the door to the floor half way between the ends. Then raise each end of the door about an inch and slip a board under it; this will cause the door to bend slightly.

Now stretch the wire tightly with the hands and nail it on the other end while the door is held to the floor in the middle. The wire will stand up in the middle, The wire will stand up in the middle, but the instant the blocks are removed from the ends the wire will be drawn tight and smooth.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

Jos. R. Taylor, Upper Dorchester, N. B.
F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma, Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Jersey Bull Calf

We have for sale a pure bred Jersey Bull Calf, 5 months old, out of Grandiflora's Kathleen (imported), whose dam was by the noted bull, Flying Fox's Victor and sired by a son of Foxhall St. John O'Dreamwold, whose dam gave over 10,000 lbs. milk in a year.

Price $25.00

ORCHARD HILL FARM,
BROWN'S FLATS, N. B.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

SEAMAN and STEWART OFFER FOR SALE

2 Trios Speckled Sussex
2 Trios Dark Cornish
A few Red Sussex Cockerels
This stock is the best money can buy
SEAMAN and STEWART
Moncton, N. B.

BARGAINS !

I will sell, after 5th of June, all my breeding Hens (about 100), 20 Roosters and 200 eight-weeks'-old Cockerels. Prices :

Hens, 75c each. Roosters, $1.00 each.
Cockerels, 30c each.
ERNEST CRAZE,
Rosewarne Poultry Farm. Port Williams, N. S

ELMHURST FARM

Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
Oxford Junction, N. S.

Elmwood Stock Farm
Offers for Sale :

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pietertje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad "the world's greatest bull" 101 A. R. O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

FOR SALE !

A good harness shop and business with a lot of land 30x50; also a four acre farm with a 12 room house, heated by steam and lighted with electric lights, all within five minutes walk from the station. For particulars and price write

W. H. HENRY,
Shubenacadie - - N. S.

PROVINCIAL EXHIBITION HALIFAX, SEPT 12th to 20th

Keep the Flags flying and your Fair gates wide open, is the advice given to the management of the Provincial Exhibition. Exalt military service and patriotism, stimulate production in all lines of effort, by emphasizing the necessity of keeping production enterprise going at top notch.

In keeping with this advice, the Commission decided early to go on with our annual fair. The prize list was increased in the Live Stock and Agricultural Classes, which are the two principal industries to be considered under present conditions.

While not putting on any special celebration this year, the recreative end will not be neglected. People need relaxation in the present tense situation.

We have increased prizes, and are making provisions for amusements.

Nothing will be cut out, except "the wail of the calamity howler."

The Industrial part of the programme is being well filled up, and it will be up to the Live Stock and Agricultural people to do "their bit" and keep the wheels moving.

BEARINGS IN MACHINERY

A very important part of any farm machine is the bearings, which are made of various metals, according to the speed of the moving parts and the weights they must sustain. Ball bearings were formerly used quite largely and are to a considerable extent yet, for certain parts of machinery, but where there is to be heavy weight, such as in wagons, binders and tractors, roller bearings are now quite generally used. They are made of steel. In shafting, where there is much friction, bearings are made of softer metal. Babbit, made of 3 parts copper, 89 parts tin and 8 parts antimony, is commonly used in such bearings. It is well for farmers to become familiar with the kind and character of the different bearings and to care for them properly.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

FOR SALE—One I. H. C. Motor Hay Press, mounted, latest pattern. Only in use a short time. In A 1 working order. For further information call and see it or write HYLAND FARM, Hillsboro, N. B.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

BULL CALF FOR SALE !
Born June 7th

Grandson of schurley Sir Posch with 21 pound bucking more white than black. A dandy at $45 F. O. B. any station in N. B. with papers.

WALTER PAYNE.
Lake Edward, N. B.

Concrete Machinery for Farm Use
(MADE IN CANADA)

Our No. 0 POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself

Also Crushers, Brick Block, Tile Machines Mixers, etc. New and Second Hand Gas Engines
Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont
DOUGLAS FULLERTON CO Dartmouth, N S

Canada needs what You can Save !

"What we have got to do is not only to produce, but to save !"
Sir George Foster,
Minister of Trade and Commerce.

THE part which Canada is proud to play in the Empire's war is costing more than we ever dreamed we could raise. If we are to make good financially, all must help !

If every man, woman, and child in Canada would save 15c. a day, and invest it in War Savings Certificates, we could carry the cost of the War.

War Savings Certificates make it easy for everyone to become Canada's partner—bearing a share of the burden—earning, and receiving, a share of the reward.

For every $21.50 you lend the nation now, you will receive $25 at the end of three years—an interest return of over 5%. Certificates are issued in denominations of $25, $50 and $100, selling at $21.50, $43 and $86 respectively, at any Bank or Money Order Post Office. 28

THE NATIONAL SERVICE BOARD OF CANADA,
OTTAWA.

SHOW STOCK SALE!

"Minnie Vale of Victoria," another four year old daughter of "Ida Rooker 2nd Vale," has just finished a R.O.P. record of 15.784 lbs. milk and 5.61 lbs. fat, making two daughters in R.O.M. and R.O.P., all showing a much higher milk and fat record than dams. He is also a breeder of show type as proved by his continual winnings in the (get of sire class) at all Maritime Shows.

We can sell a few grand young Bulls by him, different ages, also expect to have a show lof of P. B. and grade females at Halifax, several choice ones to freshen then.

W. M. LEA,
"RIVERSIDE FARM," VICTORIA, P.E.I.

FOR SALE

A handsome, well-grown Guernsey bull. Sire purchased from the Experimental Farm, Ottawa; dam of equally good breeding, and a heavy producer. Will be sold reasonable. Full particulars on inquiry.

SARAH E. MOSES SMITH,
Woodwards Cove, - - - N. B.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

Butter Parchment at the Farmer Office

The Prince Edward Island Exhibition and Horse Races

—AT—

Charlottetown, Sept. 25 to 28, 1917

OPEN TO ALL CANADA. OVER $10,000 IN EXHIBITION PRIZES

Live Stock Entries, except Poultry, close 14th September. All other entries close 18th September.

Three Days Horse Racing, $3,000.00 in purses.

Special Attractions in front of the Grand Stand.

Nearest Station Agents will give particulars of rates.

For Prize Lists and all information write the Secretary.

FRANK R. HEARTZ, President. *C. R. SMALLWOOD, Sec'y-Treas.*

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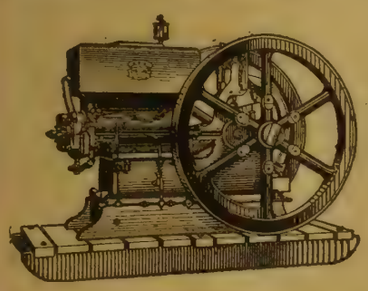
Stationary, Mounted and Traction

We manufacture the most complete line of Engines on the market. Send for Catalogues.



A Brantford Engine is the best that money can buy.

We manuracture complete lines of

Wind Mills, Grain Grinders, Steel Pole and Wood Saw Frames, Pumps, Tanks, Water Boxes, Concrete Mixers, etc.

Agents Wanted in Unrepresented Territory

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We Prepay all postage to your home address

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Parchment marked "Choice Dairy Butter" 250 sheets, 75c; 500 Sheets for $1.45, Postage Paid.

The Maritime Farmer
SUSSEX, N. B.

Let the Renfrew Sta-Rite Help You to Farm Intensively

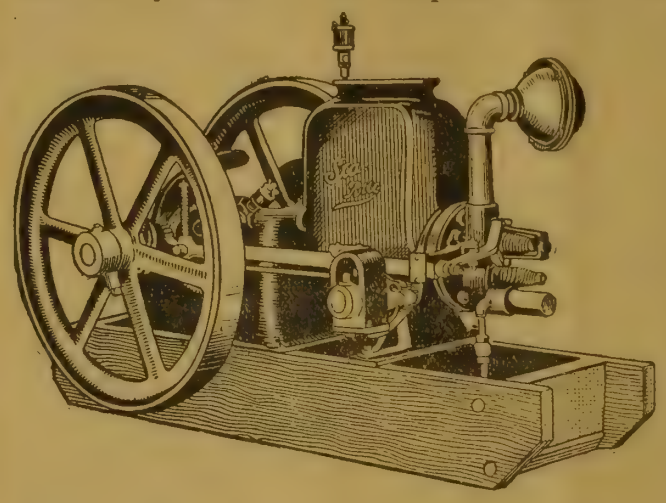
SOMEONE has calculated that it required 50,000 acres to supply the meagre necessities of each savage; while less than 25 acres are available for the exacting demands of each citizen to-day. Add to this the enormous pressure upon the farmer with the whole world pleading for more and more intensive cultivation and then you will understand why the farm gasoline engine is the farmer's "right hand man" to-day. The

Renfrew Sta-Rite

Gasoline Engine

solves the busy farmers' problem. No time has he to coax a complicated engine to do its work. This is why the extreme simplicity of the Renfrew Sta-Rite construction appeals to every farmer.

The Renfrew Standard takes in the fuel, lights the charge and evacuates the cylinders in the simplest manner with very few parts. It developes full power with less fuel.



Write for circular describing the extremely economical and simple fuel feed system the make and break igniter, the oscillating magneto and many other efficiency features that make the Sta-Rite the ideal farm engine for every kind of work.

The Renfrew Machinery Co., Limited,

Head Office and Works - Renfrew, Ont.

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Agencies Almost Everywhere in Canada

The Standard Cream Separator

Besides out-skimming other machines (getting all but one-tenth pound of cream per 1000 pounds of milk skimmed) the Standard is the easiest to clean. There are no milk or cream tubes to clog. The few parts coming into contact with the cream can be reached instantly. The simple bowl can be cleaned in a few minutes. Owing to the wide space between the tubular shaft and inside edges of the discs there is no choking, rending the cleaning of the discs extremely simple. The self-oiling system and oil proof housing system banish all leaks onto the frame. Write for booklet describing these and more exclusive Standard advantages.

The Renfrew Truck Scale

saves infinite bother about weighing anywhere on the farm. You can absolutely depend upon its accuracy. To every scale is attached the Government Inspector's certificate. You can weigh anything from a ponud to a ton. It wheels around like a truck. Every farmer needs one these busy days. Write for scale booklet.

Won't be at Fairs

The Standard Cream Separator will not be exhibited at the Fairs this year for two reasons:

First, because of the scarcity of machines caused by the unprecedented demand, although our output is sixty per cent. higher than any preceding year.

Second, to help reduce operating expenses during these times of war and high material costs, thus keeping the seeling price as low as possible.

TEAR OUT AND MAIL COUPON TODAY.

The Renfrew Machinery Co., Limited.
Renfrew, Ont.:

Please send free literature about the Renfrew Sta-Rite Engine.

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County .....

THE EXPERIMENTAL FARMS REPORT

The first volume of the Experimental Farms Report for the year ending March 31, 1916, contains much nformation of value to the farmers of Canada. At such a time as this when production means so much, no farmer can afford to overlook such information as this report contains, when it is understood that it is available for the asking. It represents the work accomplished on the Central Farm at Ottawa and the fifteen branch farms and stations distributed over Canada. Volume I contains the report of the Director, which is a general review of the work accomplished, also the reports of the Divisions of Chemistry, Field Husbandry, and Animal Husbandry. Volume II. not yet ready for distribution, will contain the reports of the Divisions of Horticulture, Cereals, Botany, Bees, Forage Plants, Poultry, Tobacco, Illustration Stations, and Extension and Publicity.

An interesting statement appears in the report of the Director, which deals with the cost of growing certain crops, as follows: Mangels, $1.55 a ton; ensilage corn, $1.45 a ton; oats 19.39 cents a bushel and hay $5.00 a ton. The system of farming represented in these experiments is explained in the report. It is also shown as a result of seven year's experiments that in fertilizing the soil, a distinct advantage is shown in the use of barnyard manure alone over commercial fertilizer alone. The experiments suggests the possibility of combining the two profitably when priced. Referring to new strains of priced. Referring to ne wstrains of grain being produced, it is stated that hullless and beardless barleys are receiving close attention with the promise of some exceptional results. Earlier and more productive varieties are being sought for, while new strains of oats, peas, beans, buckwheat and flax, are being tested. These are but examples of the character of the information contained in the 598 pages of this first volume that can be received, without cost, on application to the Publications Branch of the Department of Agriculture at Ottawa.

POULTRY FEED SITUATION

During the past few weeks, inquiry has been made into the poultry feed situation in the Maritime Provinces. Conditions are found to be somewhat improved over those reported a month or six weeks ago. Earlier the freight embargo and general feed shortage has almost entirely cut off the supply for many Eastern points. Latterly however, with the opening of navigation in the St. Lawrence the freight situation has improved and the principal poultry feeds are now available at larger points, although at prices considerably in excess of those prevailing in Ontario. The reports from smaller points where the demand is not sufficient to warrant purchasing in car lots, are not so favourable.

The above applies more particularly to points in New Brunswick and Nova Scotia. Prince Edward Island is largely self contained, although corn used has of course to be imported. Considerable quantities of wheat are also brought in at certain seasons.

Maritime poultrymen seem rather inclined to feed corn in excess. At present prices, crushed oats could be substituted to some advantage. Where prices are prohibited, mash feeds could also be used to replace hard grains to some extent.

He that giveth his neighbor a hunch is greater than he that driveth a 1917 model.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, AUGUST 28, 1917. Number 22.

If You Want to Buy a Farm Inspect Land Now

The "Lay of the Land," Its State of Fertility and Freedom From Weeds May be Judged From All Angles Now While Crops are Growing---A Few Suggestions of Interest to Intending Purchasers.

By T. L. Dunkin

"Back-to-the-land" is the clarion call that rings in the ears of the urban dweller, to whom the increased cost of living is beginning to assume serious aspects. Many of our urban dwellers are beginning to look to the land as the Mecca of their desire. Scores of the boys who have returned, having done their bit at the front, as well as many of those who will return when the conflict is over, will settle on farms. The demand for farms will be great. The back-to-the-land movement will set in to stay, and as now the agriculturist will be the man of the hour.

It would not be amiss for friends to glean a lot of information about available properties that may be of service to the young men who return.

Following are some suggestions that may be of value to them:—

This is probably the best time of the year to look over a farm with a view of making a purchase. Every nook and corner shows up for just what it is worth. If the land is fertile it will show it by the luxuriant green foliage to be found growing upon it. If it is poor this fact will be revealed by a meagre growth and yellowish color. If the soil is uneven in character and a part of the field is wet and cold showing the need of underdrains, the field will be spotted and unsightly. If the ground is dirty with noxious weeds they will be easily discovered at the present time, showing up conspicuously in the grain, corn or grass fields. If there are waste places, unsightly objects and undesirable water courses they will be in plain sight now while the earth is clothed in verdure. The lay of the land and the state of the fields and fences will be easily estimated as one walks carefully and systematically over the farm. The rotation of cropping, and system of management will all be understood, and its effect on the soil readily determined. On account of the ease of and comfortable weather all parts of the farm may be readily visited and the buildings inspected and estimated as regards their convenience and suitability for the purposes desired by a prospective buyer. The general appearance and the landscape view, the attractions and value of the dwelling, the lawn, the garden and other features can all be more easily judged at this time of the year when all nature is at her best, than at any other period.

Of all the important features to be noted by a prospective purchaser of a farm that of "the lay of the land" and its character is of the most consequence. Land may be improved in many directions by a good system of farming; in fertility, by drainage, and in other ways, but the physical features and general characteristics abide always as an unchanging proposition.

Next to this comes the matter of fertility. Building up a worn out farm is a slow proposition, unless one has a large capital behind him, and his system of management includes large purchases of concentrated feeding material. Large crops right from the first are most important. Only in these lie the possibility of net profits of a farm. Poor yields usually mean no profits at all, and one's only hope of success in the farming business is by growing crops that will leave a good margin after all expenses are paid, and it must not be forgotten that it costs practically the same to grow a poor crop as a good one. In making the farm pay one must not only raise enough produce to cover the interest on investment of land, but all other expenses as well. The price of a good farm is not usually more than one-half the other expenses of the farm and frequently much less, as one will readily estimate by the use of a few figures; and since the margin of profit is usually decided by the state of fertility of a farm, being as it is the greatest factor in large production, it will, therefore, be economy on the part of a purchaser to pay a good price for fertile land rather than buy a poor quality of soil at a nominal figure.

The buildings will be the next consideration. It costs a good deal of money in these days to erect suitable buildings for carrying on a good line of mixed farming. One can afford to pay a much higher price for a farm with good buildings, adapted to the system to be followed, than for one, that has practically none suitable for the purpose for which they are intended. Inferior buildings are a big handicap to a good system of farming, and one in purchasing will be wise to allow a good figure for a farm well equipped in this respect if other things are satisfactory.

Freedom from noxious weeds is another feature of great importance to be considered. A good crop of grain or fodder of any other useful crop cannot be grown in a field badly infested with weeds and it will cost a lot of money to eradicate this nuisance from what might otherwise be a profitable farm. To eradicate some kinds of weeds from a farm means years of up hill work and one will do well to carefully consider this phase of a farm before deciding on a purchase and be willing to make a reasonable concession in price for a clean farm rather than purchase a dirty one for much less money, other things being equal A clean farm means a full crop right from the start while a weedy one means reduced or ruined crops for many years.

A poperly fenced farm also means much to a farm and due consideration should be given to the state of these farm guards. A nice crop of grain or corn growing on the farm in close proximity to a field with a poor fence where a herd of cattle are roaming over a scanty pasture in a dry time does not afford a very pleasant situation for a good restful sleep at night. Fences on a farm should be such that at all times one should have full confidence, that the live stock of a place will remain where they are put until properly removed. One who is continually living in fear of horses, cattle or other stock breaking out through a poor fence and damaging his own or his neighbors crop can have little satisfaction out of his business. Better buy a farm with good fences or have a reserve somewhere with which to build them.

Still another most important thing for observation is the water supply. Plenty of water is an absolute necessity. If it is not at hand in the form of an never-failing spring, a rock well or a running spring, one had better be sure of the practicability of securing a regular supply before deciding on any farm without it.

Again some farms have all the land under cultivation and in regular rotation, while others have a field or two in slash and which will take much labor and expense to improve and from which little revenue can be obtained for several years.

In estimating the value of a farm, reasonable allowance should be made for all the underdrains that have been properly laid. Very few farms can be at their best without a proper system of drainage, and as a rule not enough value is placed on them in estimating the worth of a farm.

In the purchase of a farm although not a part of the farm proper the market end should not be overlooked. However desirable a place may be in point of natural excellence and equipment, without a good market the enterprise must end in failure. If one is interested in the raising of heavy horses he would be foolish indeed to locate in a section of the country where dairying is the chief industry and where a carload of heavy horses could not be found suitable for the market at any price and where there is no inducement for a buyer to go. On the other hand no dairyman or breeder of pure-bred cattle should think of locating in a horse-breeding district. Invariably the best markets for any class of farm products will be found where that class is raised in sufficiently large numbers to induce buyers to visit that section for the purpose of filling their orders, for unless the farmer has the advantage of a steady and reliable market he is not in a position to make good in his calling.

More than all else the farmer should consider the family and the home in the purchase of a farm.

To raise good boys and girls is of infinitely more value than to raise good horses or cattle. To educate these and train them for useful citizenship should be the supreme consideration. Hence the conditions necessary for the attainment of this object should be studied. The moral and Christian element in the neighborhood should be unquestioned.

While the foregoing are amongst the principal items of interest to be noted in purchasing a farm, it is recognized that these are not all. As a prospective purchaser goes over any farm, if he knows farms and farming, there will usually be many things both good and bad to attract his attention and to which he will attach more or less value and which may and perhaps should have their influence on a purchase. No one farm will be found to have a monopoly of the good things and while one may excel in one direction it may be altogether inferior in another.

In this as in all other worthy lines of life's activities the motto, "First things first," should be the rule and if this is considered as a principle, the purchaser with good judgment will not likely go far astray in his choice of a farm.—O. V. J.

MEASURING UP THE FIELDS

I often wish to measure certain plots of land alone. As it is difficult to run a tape line or chain measure without help, I use the hoop method. I take a hoop from a barrel, cutting it so it will form a circular wheel 8¼ feet, or half a rod in circumference. Into this circular rim I cris-cross two light laths, making a set of spokes. In the center a hole is bored and a bolt forms a spindle upon which the wheel revolves.

A set of light handles attached to the wheel makes a light measuring barrow which is easily wheeled along and a ticker made from a corset steel tallies off the revolutions which I record as I go along. In a memorandum book I enter these figures and afterward I know to a very close fraction the number of tillable acres contained in any field on my farm.—George W. Brown.

In Marketing Poultry Distribute What You Sell Over the Twelve Months.

As a rule, the most of the market poultry sold is marketed in about one-sixth of a year, that is, in the autumn. As a result prices suddenly fall when farmers are about ready to sell. This cannot be wondered at, because when more poultry comes into the city than can be consumed as it arrives, it is necessary to put it into storage. Cold storage. unfortunately, adds to the cost which must be paid either by the producer or the cosumer, and, moreover, produce once stored is not appreciated as is the fresh quality so that poultry sold when it is not necessary to go into cold storage will bring a higher comparative price to the producer for these two reasons, writes F. E. Elford, manager Poultry Dept., Experimental Farm.

Again the remedy for this to a certain degree is in the hands of the producer. He should endeavor to distribute his produce over more of the twelve months than he does. To do this requires differest methods of handling his poultry than he has practised in the past, but such a change of methods will mean more money for the seller at a less cost of production and better satisfaction to the consumer. For instance, instead of keeping the spring chicks all summer long and marketing them in the fall, some of them at least might be marketed throughout the season as broilers. Broilers bring two or three times as much per pound in May and early June as they would bring as roasters in the fall. If, therefore, cockerels, that were large enough to be marketed at this time of the year were sold they would command, in most cases, as much per bird as they would bring if kept until fall, and the cost of production would be materially lessened. The same obtains with hens. Hens that have completed their second laying winter and have passed through the breeding season should be marketed as soon as the breeding season is over rather than be kept until the fall. Hens in June bring from '0 to 100 per cent. more than they do in October and, if marketed in June or July, do not come into competition with the cockerels which are marketed as roasters in October and November. The reason that old hens bring from 5 to 8 cents a pound in the fall is because people do not want them when they can get chickens, but, if the hens are marketed in the spring when there are no fresh roasters, the demand is good and the prices in proportion to the demand.

Broilers

Broilers are chickens weighing under 2½ pounds. Sometimes those that weigh less than 1½ pounds to the pair are called "squab broilers." The best way to feed broilers is to give a palatable mash in a clean yard, mix the msh with milk is possible, give some green food and keep everything clean and the chicks fr from lice.

When convenient, bleeding and dry plucking are advised before selling, though, if the weather is warm and local killing facilities not good, it may pay to ship alive.

Fowl

Hens that have passed their second laying season if well fleshed make excellent eating. If they have a week or ten days in the fattening crate so much the better. In selling them much depends upon the market to which you ship. In many of the larger cities the Jewish trade is considerable, they take large quantities of hens, but they want them fat and alive. For other markets it is usually the best to kill before selling. Usually any female that has laid is classed by the buyers as "fowl."

Ducks

The same may be said of other lines of poultry, especially ducks. Green ducks, that is, ducks that have just completed their first coat of feathers, should be marketed at that time rather than be kept until fall.

Large produce dealers claim that they cannot get a sufficient quantity of green ducks and are advising people to sell their ducks at 10 to 11 weeks rather than keep them until they are matured.

Geese and Turkeys

Geese and turkeys are not raised in such quantities that they glut the market materially but, in geese especially, it may not be long until they will be sold green as are ducks and will bring a larger margin to the producer. It has usually been considered that turkeys were only fit to eat when matured, but at the Central Experimental Farm this year several turkeys weighing 3 or 4 pounds each were killed and eaten and the consumers reported that the flesh was so much better than the matured bird that there is no saying what might be done with green turkeys if they could be raised in quantities.

Capons

In order to lengthen the period of marketing, the question of capons is being considered more and more every year. A caponized or de-sexed cockerel not only produces much more palatable flesh than a cockerel, but it has this advantage that it is ready to market when practically nothing else in the fresh chicken line is available; at a time when the broilers, green ducks, hens and roosters have all been marketed, and nothing but cold storage stuff is procurable. For those who can keep their birds for ten months the capons will help to lengthen the season and as consumers are willing to pay more for the superior product, caponized cockerels and probably caponized turkeys will find a place among the high-priced delicacies.

Which Hens to Market

There are some who want a limited number of eggs throughout the summer months, but do not want to keep all their hens through the warm weather. The question arises as to which hens should they kell off and which keep. To help answer this question, an eyperiment was tried to determine which hens would lay best during the summer months, also if there is any relation between winter and summer laying; that is, will a hen that lays well during the winter be more likely to lay better or worse during the summer than the hen that fails to lay during the winter months? It has been claimed time and again that it does not make any difference when a pullet starts to lay; that she will lay just as many eggs whether she starts in November or April. Our records show that the pullet that does not start to lay until near spring never catches up to her sister that begins in November or December. In this country the winters are so long that if a pullet does not lay until spring she has little more than six months to make up her number, which is a handicap she can never overtake.

To help in solving the questions referred to, we divided the pullets and hens into three groups—those that started to lay in November, those that started in January and those that started in February. Taking the three groups, we obtained the following average yield for the first two months of laying, and the four summer months, June, July, August and September. Birds starting in November laid in November and December an average of 14.8 eggs, and for the four summer months averaged per bird, 32.8 eggs. The January birds for January and February averaged 14.5, and for the four summer months an average of 30.1 was obtained. The February birds for February and March averaged 21.75 eggs, and for the four summer months averaged 27.5 eggs. So that taking the groups of birds that started to lay in the three different months—November, January, and February—their rates as summer layers were 32.8, 30.1, and 27.5 which indicates that the earlier the bird begins to lay after November 1 the more eggs will be laid, not only in the year but also in the four summer months, and therefore it is from hens that lay in the winter that we may expect eggs during the summer.

It is also generally conceded that the bird that lays late in the fall, that is, that does not moult till near winter, is the heavy layer, and when killing in the fall is practised it is not a good plan to kill those hens that are not fully feathered, as they are usually the best layers.

Distance from Market

It is a good plan to be near your market. This, however, is a relative term and does not always mean near in the sense of distance. Some people 100 miles from the market are really nearer than others within a few miles in that it does not cost as much to deliver and the produce arrives in better shape.

Distance from market should be considered not in miles, but in time, condition and expense in getting produce from the farm to the market. Two miles of rough road from the farm to the railroad station may be a greater distance than 200 miles from the railroad station to the consumer. One can be miles distant yet close enough. In the country, land is cheap, help is reasonable, feed can be bought, at first cost, and there is always the additional advantage of handling the produce of one's neighbors.

Many farmers who consider themselves out of reach of the best markets may be nearer than they think. In such cases a little co-operation may make their position ideal.

Cousnmer Pays Highest Prices

The nearer the producer can come to the consumer (that is the fewer middlemen there are) the higher will be his prices, but the greater will be the labor and expense of marketing. The best paying customers those who are williny to pay five to twenty cents per dozen above the highest retail prices—are the private families who want the best of everything and who are willing to pay for it. More attention must be given to this class, however, and all producers are not so situated that they can cater to it. Next to the family trade comes the hotel or restaurant trade, which also requires a producer close enough that produce can be shipped or delivered frequently at not too much a cost. After the hotel trade, probably the next highest prices are paid by the retail store. There are good retailers in large towns that are looking for the person who will furnish eggs regularly each week the year round at several cents per dozen above the retail store price. Some stores in cities are willing to pay considerably above the highest wholesale price for the right kind of eggs, delivered with regularity throughout the year. The only time, however, to get this or any of the other trades mentioned so far, is during the time of scarcity, not when eggs are plentiful, and it must be remembered that in these private or retail trades there will be a surplus of eggs in the spring that may have to be sold elsewhere.

The wholesale trade has received and probably always will receive the bulk of shipments. As a rule this trade will purchase any quality and quantity, though now most of them claim to be paying according to quality. It is to this market that most producers will cater, but some who are more careful in their production and who are better situated may take on the more liscriminating trade as noted above.

Protect and Advertise Yourself

Where the producer is convenient enough to a good market such as a city or a large hotel, more care should be taken in getting the eggs directly on the consumer's table, and in such cases it is generally advisable to use the dozen egg cartons. Grade the eggs according to color and size, and if they can be shipped the day they are laid so much the better. It is also a good plan for such a market to make a specialty of guaranteed strictly fresh, non-fertile eggs and to say so on the outside of the carton. In case this guarantee is printed, it is just as well to seal the carton, and as a precaution state that the eggs are guaranteed if the seal is unbroken. Should there be any likelihood of the eggs being held in the consumer's hands any length of time before being eaten, it is advisable to state that the eggs are guaranteed if eaten before a certain date, and in catering to such a class of customers the producers should candle all his eggs, for even strictly new-laid, non-fertile eggs may have a blood spot, and one such egg opened on the breakfast table will often condemn the source of supply.

Date .....
Poultry, pounds.....
Eggs, dozen.....
.....
Mr. .....
Received from.....
.....Pounds Poultry
.....Dozen eggs.
Received by
.....
Date.....

For Private Delivery

Where eggs or poultry are delivered and a receipt for their delivery is necessary, the above form is convenient. The top edge is gummed and stuck to the parcel. Below the perforated line the name and amount is written and the consignee signs at the bottom. All below the perforation is retained as a voucher by the messenger.

The producer that is specializing in this new-laid egg trade and markets through the retailer should advertise himself instead of the middleman who may handle the goods., and for this purpose it is well to have the name or brand prominently but attractively placed on all the packages.

Of course, every producer is not so situated that he can cater to the highest class trade, nor is every producer qualified for taking care of such a trade. It means strict attention to detail, absolute honesty and ability to send a stated amount at stated intervals. Because of this latter fact such producers should not contract to supply every week more eggs than they have at their lowest production season, and usually during the season of high production there will be quan-

tities of eggs that will have to be disposed of in other ways. It will, therefore, be advisable, especially for producers so situated, to endeavor to have as large a proportion of their eggs produced during the slack season as possible; this will necessitate early pullets for the late fall and early winter supply of eggs.

Private Delivery Expensive

As a rule, the poultry producer cannot afford to deliver every week to private customers even though his place of business be close by. There may be an exception to this in the case of the poultry man being in the milk business where the eggs can be delivered at the same time as the milk. But to make a trip for the sole purpose of delivering a few dozen eggs is too expensive to be considered. Sending shipments by express and parcel post will be found to be less expensive, and as a rule, more satisfactory.

Extra Price all Profit

The extra price per dozen which is paid for extra quality is almost clear gain. There is a fair profit in producing eggs at the regular market prices. The largest profit must come from superior marketing and from special market advantages in selling eggs and stock. A difference of only a few cents per dozen makes a large increase in the income when several hundred fowls are kept. For example one man who has 100 laying hens from which he gets ten dozen eggs each a year, may take the wholesale price or he may send them to one of the other markets and get a premium of five cents up per dozen. Five cents on each dozen means fifty cents per hen or fifty dollars per year on the flock, which is practically clean gain, the result of good business methods, neat packages, uniformly good quality and honest dealings.

Private Trade Requires Time and Tact

Working up a first-class private trade requires time and tact. The "best advertisement is a satisfied customer." Trade grows by one satisfied customer recommending your product to another. Farmers who can reach guests at summer resorts, and those who live in communities where summer boarders are taken on the farms have a good opportunity to secure summer customers for eggs. Frequently summer hotels, restaurants, hospitals and, in some cases, large retail dealers, will pay nearly or quite as much as private families. The wholesale trade on the other hand is easier to get and easier to serve, in fact, it may be taken as a general rule that the nearer you come to the consumer, the greater tact and business knowledge are required and the greater the profit.

How to Fix the Yearly Price

In catering to a private restaurant or hotel trade, much misunderstanding may be avoided by fixing the price for the year. There are different ways of doing this. One can agree upon a stated price per dozen throughout the year and the number of eggs to be delivered each week. Sometimes the latter clause is necessary in order to insure fairness, and not to leave either party the temptation to take advantage of the other. This might be done by a dishonest producer, who could sell eggs to outside parties when he could get more for them than his contract price, or to the dishonest buyer who would purchase elsewhere when he could get eggs for less than his contract price.

Another plan is to decide upon a certain increase over the prevailing market price; for example a figure equal to 10 or 50 per cent. above the highest market quotation each week. This sliding scale proves satisfactory and there is not the incentive to either party breaking faith.

A third plan that is sometimes adopted is to fix a price per dozen for each month, varying the price a few cents, according to the demand which usually obtains at that particular season. A sample scale of prics on this basis and one which has been paid to a certain poultry man catering to Montreal private families, is: 30 cents per dozen for April, May, June, July; 40 cents per dozen for August and September; 45 cents per dozen for October and November 50 cents per dozen for December and January. 40 cents per dozen for February and March. By this system there is an incentive for the customer to eat more eggs when there are lots of them and the price low, and to find less fault if he should not get his full supply when they are scarce and the price high.

Consumer Settles Breakage Claims

In order to adjust claims for breakage with the express companies, it will be found more satisfactory to have the consumer pay the express charges. The consumer will then hold the express company responsible for rough handling. The one who is on the spot and finds the eggs broken can deal direct with the man who delivered them much more easily and satisfactorily than through a third party living at a distance. With strong, convenient, conspicuously stencilled crates, the breakage should not be serious and, if possible, avoid shipping to points where the eggs must be handled by two express companies, as each company lays the blame on the other.

Study Cow and be Able to Treat Her Diseases

Digestive disturbances among cattle are very common and are usually the result of some error in the quantity, the quality or the manner of feeding. The cow has four stomachs, or rather, four separate compartments of the stomach. The paunch, which is the largest is the receptacle that holds the food as it is first swallowed, and will hold as much as 60 gallons. This is a reservoir for the food that is eaten by the cow and is afterward remasticated. This remastification is the process that is going on while the cow is "chewing her cud", and is also known as "ruminating."

The first three compartments of the stomach are of value only in preparing the food for digestion which really takes place in the fourth part of the stomach, or the true stomach. The third part of the stomach is arranged like the leaves of a book and, after the food has been remasticated, it passes into this third compartment and is pressed and strained into the fourth stomach where the true digestive process takes place.

The feed that is given the cow should be of good quality; that of bad quality may ferment, causing indigestion and occasionally other chronic disease conditions. Feeds that contain too large a part of indigestible material to cause such a severe strain upon the digestive organs as to overwork them, thus producing diseases molds and fungi will R...
of various kinds. Feeds that are affected with the various rusts, molds and fungi will often cause severe and violent inflammation of the digestive tract, accompanied by colicky pains and diarrhoeas. They may also cause the development of dangerous and often fatal promaines.

Cows should be fed only at regular intervals and the feeding should not be done at any convenient time, as is often practised. The digestive organs accustomed to doing their work at stated intervals are not nearly so apt to become overlooked.

Feed should not be too rich in nutrients nor too concentrated, as cows are unable to subsist on feeds that do not furnish the required bulk. Cows require a certain bulk in their ration and it has been determined that a cow requires somewhere in the neighborhood of 25 pounds of roughage per day, as a necessary part of ration. If the digestive organs are not properly distended the cow will become restless and show evidence of digestive disturbance. There would be no objection, however, in feeding a concentrated feed high in nutrients and containing very little bulk by itself, if some other time in the day the required amount of roughage were fed.

Cows that have been on a fixed ration for some time should not have their ration changed suddenly. Such a change should be worked out gradually, by adding a little of the feed to which it is desired to make the change to the feed that is being used, and by decreasing the latter a little at each feeding. The digestive organs become accustomed to the work required to digest a certain feed after it has been fed for some time. The glands also become accustomed to secreting the amount of digestive secretions that are necessary to carry on digestion of the existing ration. Thus any radical and sudden change in feeds given does not allow the various organs time to regulate their function to the sudden change, and so digestive disturbances and sometimes a decided loss of weight result. Cows have been known to lose as much as 25 to 100 pounds from a sudden and radical change in the ration.

In cold weather, when it is possible, the drinking water should be heated to about 50 degrees. When given very cold it sometimes produces colic. Cows should be watered often and the water should always be pure and clean and not too cold.

Slobbering

Salivation or slobbering is a local condition and not a symptom of any such diseases as foot-and-mouth disease or rabies. Such symptoms may be caused by foreign substances, such as nails and short pieces of wire, becoming imbedded in the tongue or the cheek, or by the lodging of a foreign substance between the upper molar teeth. They may also result from eating poisonous or acrid plants or weeds, such as wild mustard. Salivation may also be caused by eating damaged or spoiled feed or sharp ensilage. If due to the feed this should be discontinued at once. As local treatment dissolve a level tablespoonful of pulverized alum in one-half pint of water and syringe out the mouth twice each day.

If it is caused by some foreign substance becoming lodged in the muscular structures of the tongue or cheek it should be removed. In examining the mouth of the cow the tongue should be firmly grasped and pulled out of the mouth and a mouth gag or a speculum should be inserted between the teeth to keep the mouth open. A mouth gag is nothing more than a small block of wood to which is attached a piece of spring metal to hold it in place and it is inserted between the molar teeth. It is safer and more practical than a mouth speculum.

The Teeth

The teeth of cows do not receive the same attention that is given the teeth of horses, yet cows have much more trouble with their teeth than the average farmer supposes. They have irregularities that may come from the unequal grinding of the teeth and from the sand that is sometimes picked up with the grass. Occasionally the teeth are broken or split by biting on some hard object that is picked up with the feed. Cavities, due to injuries to the enamel, are often found in the teeth. Ulceration of the teeth is quite common in milk cows and usually acects the upper molars. A hard swelling appears on the cow's face below the eye; it grows rapidly larger in size, is tender to the touch and the cow will often show that it is difficult for her to eat. This enlargement opens in the course of several days if it is not properly treated and then discharges a small quantity of very foul-smelling pus. Once in a while an extra tooth will be found that interferes with eating in some way; this is known as a supernumerary tooth.

To examine the cow's teeth it is necessary to use the gag or speculum previously described, and the examination should be made in a good light. If the teeth are uneven, due to grinding, they should have the sharp points removed by the same method that is used in horses. If it is necessary to extract any tooth or part of a tooth it will be necessary to cast the cow and tie her securely so that the head can be properly controlled. As soon as a swelling is noticed that would indicate there is an ulceration at the root of the tooth the swelling should be painted twice daily with tincture of iodine. If this treatment fails to bring marked improvement within a few days a veterinarian should be called to drill with a bone drill through the bone at the swelling to liberate the pus and remove the tooth, which is usually diseased, then treat as any other abscess cavity.

Inflammation of the Mouth

Occasionally, cattle are affected with sore mouth, due to eating irritant plants or spoiled feed and sometimes to sharply cut ensilage. When the mouth is examined it is found to be dry and hot; the tongue and cheeks are very red. The animal is often bothered in eating and drinking while in this condition.

If the condition is not too severe it will correct itself in a short time, otherwise the feed should be soft, and of a liquid nature, such as mashes and slops, and the mouth may be rinsed out twice each day with three or four ounces of the following solution: Pulverized alum one ounce, potassium chlorate, one ounce, and water to make one quart.

Sore Throat

This is an inflammation of the mucous membrane lining the throat and is very seldom found alone, but usually associated with some of the more severe respiratory diseases, such as pneumonia, bronchitis or pleurisy.

The muzzle is dry and the saliva dribbles from the corners of the mouth. The head is slightly extended and held rigid. The eyes are drawn so that the animal has a sleepy appearance. The animal stands quietly, scarcely changing its position, and the eyes are bloodshot. It drinks with great difficulty, and may chew some food but may drop it from the mouth rather than make an attempt to swallow it; water is taken into the mouth but instead of swallowing it the animal allows it to run out between the lips.

The water that is offered the animal should be warmed, and the feed should consist of slops and mashes and hay or linseed teas. No coarse, harsh feeds of any kind, such as hay or fodder, should be given. Take an eight-ounce bottle and in this place one ounce of tincture of iron chloride

and fill with glycerine; then place one ounce of this mixture on the tongue three times each day. Bathe well the region under the throat and between the lower jaw bones with ammonia or white liniment two or three times each day. Keep the animal in a well ventilated yet warm stall and do not allow it to be exposed to the weather or storms. Recovery should take place in from three or four days to one week.

Mumps

This is an inflammation of the parotid gland and occurs in cows of almost all ages and under almost all conditions and different kinds of care. The parotid gland lies just under the ear and extends downward to about the angle of the jaw.

This condition usually starts with a chill which is quickly followed by high fever in many cases. The head is extended as if the neck is stiff and a slight swelling is noticed in the region of the parotid gland. If only one side is affected the head will be turned to one side. This swelling is very tender to the touch and the animal will try to avoid having it manipulated. This swelling usually reaches its height in about 24 hours. The animal usually refuses all feed and may attempt to drink a little water, but may desist due to the pain it causes.

The animal should be placed in a well ventilated yet warm and comfortable box stall; water should be placed where it can be easily reached. Thin slops and mashes should be offered, but no fodders or hays. Paint the swelling three times daily for the first three or four days with tincture of iodine, and after that one each. Recovery in most times takes place in from a week to ten days, but in aggravated cases and where abscess development takes place the recovery may be delayed for three or four weeks. If abscess forms in the gland a veterinarian should be called as soon as the presence of pus can be determined by pressure of the gland with the fingers, and he should liberate the pus at once by the use of a sharp knife. The bacterin treatment as applied by veterinarians is very valuable in this condition.

Bloat

This condition is also known as hoven or tympanites. It is characterized by a filling up of the left flank and by the formation of gas. It is brought about by a wide variety of conditions, but chieby by eating spoiled feed, or feed that is wet with dew or rain, or it may result from eating too fast, which produces indigestion with a rapid fermentation asd formation of gas. It may also result from choke due to the closing of the gullet, which prevents the belching of the gas, and consequently the retention of gas causes the bloating. It may also result from the eating of frozen roots or grass, or vegetables such as turnips, cabbage and the like. It is caused most often from eating clover which is wet with dew or rain and in many cases is fatal before the animal is found. Most digestive disturbances are accompanied by bloating.

The swelling in the left flank becomes so great that it sometimes extends above the level of the back. Breathing becomes fast and difficult. The eyes have an anxious and painful expression. As bloating continues the animal shows symptoms of great pain and may reel and stagger when it walks. Death is caused from the pressing forward of the diaphragm upon the lungs, which results in asphyxiation.

If the animal is in immediate danger it should be tapped immediately. If it is not possible to procure immediately a trocar, which is made especially for tapping, use a sharp butcher or pocket knife. Do not attempt to procure antiseptics and sterilize the spot where the incision is to be made if the cow is in immediate danger. The animal should be tapped midway between the last rib and the point of the hig and about the same distance from the backbone. When the animal is not in immediate danger a rope gag is made by tying knots in a rope and placing this bunch of knots in the mouth and passing the ends of the rope up over the head, where they are tied. The animal by chewing the knots in an effort to dislodge them will cause the secretion of saliva with swallowing. The gas will then pass off by way of the gullet or oesphagus.

There are several anti-ferments that are good for treatment of bloat in preventing formation of the gas.

From 2 to 4 tablespoonfuls of spirits of turpentine given in one-half pint of linseed oil, or in milk, will sometimes be all that is required. Possibly the best treatment is one-half tablespoonful of formalin in one quart of water as a drench. This treatment has been credited to workers at the Kentucky State Agricultural College.

Urotropin is another medicine that can be used to treat bloat. It is a white granular substance with a slightly bitter taste and looks somewhat like coarse granulated sugar. It is made from ammonia and formaldehyde and should be kept in a tightly corkel bottle. Give from two to four level teaspoonfuls in a half-pint of water and repeat in an hour and a half if necessary. It is not irritating to the mucous membranes while formaldehyde is, unless it is well diluted.

Impaction of the Rumen

This condition is one of the most difficult to handle due to the fact that it is quite hard to diagnose the condition and many times the animal is overtreated. The symptoms of this condition are very irregular. It is the result of an animal eating too much food or eating feeds that were not fit for feeding.

A cow with an impaction may eat until the condition becomes very grave or she may refuse feed altogether. In all cases one can hear a grunt when the animal breathes. In some cases it can be heard all the time and at other times it may be heard only occasionally. In standing behind the cow the backbone appears to curve upward and to the left. By pressing in the region of the rumen its contents feel soft and doughy or rather firm, and the indentation made by the fist will remain for some little time after the fist is removed.

In the treatment the first and most important thing to do is to remove all feed. Water should be allowed freely. Stimulants and anti-ferments constitute the balance of the treatment. One-half teaspoonful of fluid extract of nux-vomica should be given every three or four hours and one teaspoonful of salol should be given with it to prevent fermentation. As soon as the cow begins to chew her cud and act natural she should receive a dose of castor or linseed oil. There are two operations that are necessary to cure impaction when it is determined that medicinal treatment is of no avail, but these operations can be performed only by a veterinarian.

G. H. CONN.

Where Shall the New Barn Go ?

The character of the soil upon which the dairy barn is to be situated deserves more attention than it usually receives. The location should, if possible, have sufficient slope to insure surface drainage. There is nothing much more unsanitary than to have pools of stagnant water standing around the barn. Some men realize this, and select a site that is very satisfactory from that standpoint, while from going to and fro through the country I see many barns that are not thus located. The more open and porous the soil the more preferable it is upon which to erect a building. A porous soil insures underdrainage of surplus water in the soil. This means that the lots will be drier and healthier. A dry soil exposed to sunlight is nearly the last place about the farm where bacteria will develop. One must not be misled by expecting to underdrain with tile. This method has usually resulted unsatisfactorily, for the reason that a heavy soil packs so hard from being tramped by cattle and horses that the water will pass through very slowly.

Have a southern exposure for the barn and lots. This insures more sunlight and offers protection from the cold north winds of winter. Other things being equal, it is highly advisable to locate the barn a short distance to the south of the farm grove. If there is no natural protection on the north, then a grove of quick growing trees will in a surprisingly short time make a splendid shelter belt.

Naturally the part of the barn that is to house the cows should stand north and south. Thus each side will receive the full benefit of the sunlight for part of the day. If the building stood east and west the north side would be cut off almost entirely from the sun. Getting sunlight into the dairy barn is a rather serious proposition. Not long ago I visited a dairy barn that stood east and west. There were three rows of cow stalls. The ceiling was low with a hay mow overhead.

The fact was quickly manifest that only the row of cows along the south side received a sufficient amount of sunlight. The interior gave one the impression that it never had been thoroughly ventilated. Contrasted with that, another dairy barn was visited where the large wing which held somewhere near 60 cows stood north and south. There were but two rows of stalls. The air in this barn was dry and pure, and the barn had a distinct appearance of being clean and sanitary.

Ventilation, next to and equal to sunlight, is a serious problem that confronts a man who is planning a dairy barn. The system with fresh air inlets near the ceiling and outlets for warm impure air near the bottom with an open shaft leading to the roof has been heralded as ideal. Yet in many cases, as with the barn last mentioned, it will not do the work in cold weather. The reason why it is unsatisfactory is plain. The impure air must of necessity be warmed by heat from the animals to make it lighter so that it will rise. Now cooling through the walls is done so rapidly that the impure air does not pass off or, if it does, it will be done slowly. A system of protected windows with an open air shaft from the middle of the barn that will carry off the impure air is really about as satisfactory as any that can be devised. The lower those outlets are the better it will be. Some barns equipped with them have them jointed or constructed so that they will telescope upwards to allow a wagon or the litter carrier to pass through.

Everything in the barn is, of course, to be constructed in the most sanitary manner possible. A cement floor is nearly the ideal from the standpoint of cleanliness. It is somewhat likely to be damp, perhaps. To obviate this some men are putting cement as it is being laid. About a layer of heavy tar paper in the two inches of cement is put above the paper. This seems to almost entirely do away with the dampness passing up from below. The two inches of cement are sufficient to prevent shelling off, as often happens when a thinner layer of cement is used for any purpose. Iron fixtures, stall partitions, and stanchions are quite generally used on account of their sanitary qualities.

Convenience is one of the watchwords that must be kept foremost in mind in regard to the dairy farm. A long, continuous feeding trough of cement may be used for watering the coks in their stalls. There are now in use partitions of metal for the cement mangers which can be raised mechanically. This permits the litter to be brushed out with a broom and water run in quickly and easily. There is, however, a substantial objection to watering the cows from a large open manger. That objection is that with so much water exposed in the barn the evaporation will moisten the air in the barn and make it cooler in winter time. The manger need not be deep.

To have the two rows of cows face outward is advisable for several reasons. There is more work to be done behind the cows than in front of them. There is just one alleyway to be washed each morning. The walls are never splashed up or stained, as is often the case when the cows are tied with their heads toward the inside and the litter carrier and manure wagon will pass between them.

Naturally the location of the feed room and silo may simplify or increase the amount of work required in feeding. Get the feed supply handy and make pleasure out of the work.

Ffficiency of Lightning Rods

Practically all losses from lightning are borne by farmers. In cities tall spires and stacks are occasionally struck, but ordinary buildings are practically immune. The fire marshall from Indiana in his report for 1914-15-16 shows that for these years 88 pe rcent. of the lightning losses in the state occurred in country districts. He also found that a considerable portion of the total losses, about 15 per cent., were due to lightning. Of the 5,520 buildings burned, 879 were ignited by lightning, and the loss from this cause alone totalled nearly a million dollars for the three year period. It was further shown that barns are a favorite object for lightning strokes, as high as 84 per cent. of the losses from this cause being barns.

The records of fire insurance companies show conclusively that properly installed lightning rods are efficient in preventing lightning losses. Basing his calculations on the records of eighteen fire insurance companies in Ontario, Prof. W. H. Day of the Ontario Agricultural College, states that for 1912, of 7,000 un-rodded buildings insured, 37 were struck by lightning and several were burned, while out of 7,000 rodded buildings, only two were struck and these were damaged only. This shows an efficiency of 94½ per cent. for lightning rods. A similar investigation for 1913 gave them an

efficiency of 92 per cent. Prof. Day also finds from the records of Iowa companies, that lightning rods in that state were 98.7 per cent. efficient, while in Michigan they were found to be 99.9 per cent. efficient. Prof. J. Warren Smith, of the U. S. Weather Bureau, has stated that the results of his investigations strongly substantiate those of Prof. Day.

These investigations into the efficiency of lightning rods confirm what science teaches regarding them. Lightning is an electrical discharge. Because it is electrical it must obey the laws of electricity. Men know something of the laws of electricity, and therefore they know something of the laws that govern lightning discharges. It is only reasonable to credit the men who know how to conduct mighty electrical currents into houses and buildings with perfect safety, with also being able to control conditions so that buildings may be rendered safe from lightning.

Whether the efficiency of lightning rods depends most on preventing lightning strokes, or in conducting the lightning stroke harmlessly to the ground, cannot be determined. Investigation goes to show that to a large extent their efficiency is due to prevention of the stroke. Due to condensation, immense charges of electricity are condensed on the cloud. As the positive gathers together in the cloud, the negative charge collects directly beneath in the earth. The attraction of these unlike charges causes a violent flash as soon as the electrical pressure or attraction between the cloud and earth is sufficiently high to make the electricity jump the space between them. Now, electricity it has been found will leak off sharp points. The effect of this is to reduce the potential of the charge in the earth in the immediate vicinity of the building on which these points are placed, with the result that the probability of a stroke at that point is greatly reduced. Should the stroke occur it follows the metal path provided for it to the ground and no damage is done.

In rodding a building, there are a few important considerations which must be borne in mind if the work is to be satisfactorily done, and unless it is done properly the danger from lightning is increased rather than decreased. The standard materials to use in lightning conductors are copper and galvanized iron. Iron covered with copper should not be used. To safely carry heavy lightning flashes, copper cables should weigh at least three ounces and galvanized iron five ounces per foot. All parts of the wiring should be connected up into one system with no blind ends left ungrounded. The contacts at joints should be made as perfect as possible, preferably by soldering. The cable is fastened closely to the building by means of staples, and without the use of insulators. Sharp turns must be avoided, and points or rods should be placed one within three feet from the end of each ridge. They should not be more than 20 feet apart, and one should be placed near each chimney or other high part. Those on the ridge should be three feet high and those near chimneys, etc., two feet above the highest point. On straight roofs the system should be grounded in two places, i.e. at diagonal opposite corners. If the building is over 45 feet long, a third ground should be placed near the middle of the side, the cable being joined to the main cable at the ridge. It is absolutely essential that the grounding wires reach permanent moisture, going down at least 8 or 10 feet below the surface.

TELLING AGE OF ANIMALS

The age of a horse is determined by his teeth; by the time that they appear and by the disappearance of the cups or tables.

The centre pair of the milk teeth are found in the colt's mouth at birth or a few days after. The intermediate pair appear when the colt is six to nine weeks old and the corner pair at seven to nine months. The larger permanent teeth appear at about two and a half years and re in full wear at three years. The next pair when up indicate four years and the corner ones appear at about four and a half, being in full wear at five.

At five years what are known as the tusks are full size. At six the cups have practically disappeared from the center pair of lower incisors. tA seven the "swallow-tail" or nick has appeared in the corner incisors and the cups have disappeared from the intermediate lower incisors. At eight years the cups have practically disappeared from the corner incisors. At nine, ten, and eleven the cups disappear from the centre, intermediate and corner upper incisors respectively. From eleven on the teeth become more triangular and join the jaw at a greater angle.

Cattle

Age of cattle is best determined by the teeth. The calf is usually born with two fore or cutting teeth, and in one month the entire eight are out. The age is then guessed by the wearing down of these teeth until the calf is eight months old, when they begin to grow narrower and smaller. At eight months old the two centre teeth have become smaller than the rest, and from that time until eighteen months of age the other teeth gradually diminish until they are all considerably lessened in size and stand apart from each other.

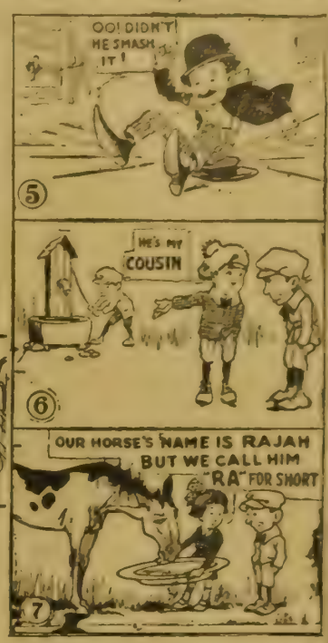
At two years old the two middle teeth are pushed out and succeeded by two permanent ones. At three years of age there are four permanent teeth, and at four years and all the rest at five years of age, when the animal is said to be full mouthed.

From six to eight years one will be guided by the wearing down of the teeth and after that by the diminution of their bulk.

At nine years of age the two middle fore teeth are smaller and narrower than the rest; at ten years of age the next two are so, and so on until the animal is twelve years of age, when the teeth again begin to stand apart from each other.

What Did We Plant in Our Vegetable Garden?

What vegetables do these pictures represent?



What vegetables do these pictures represent?

TO help win the war we must all produce, so every patriotic Canadian has a vegetable garden this year. We have a fine assortment of vegetables in our garden, and if you will study the pictures at the right you may be able to discover what we are growing. Each of the pictures represents a common vegetable that you all know. Here are two examples from the series our artist drew and we will tell you that No. 1 is Cauliflower (Call-eye-Flower) and No. 8, Beets (Bee-eats). Now see if you can solve the rest and when you have them all, write your solutions on a sheet of paper and send them to us.

This Contest is Free of Expense to All

YOU do not spend a single penny of your money, nor will you be asked to buy anything in order to enter this great Contest and win the Chevrolet Car or a fine prize. The Continental Publishing Co., Limited, one of the strongest and best known publishing firms in Canada is conducting this interesting Contest in order to quickly advertise and introduce "RURAL CANADA for Women" the wonderful new magazine for Canadian Farm Folk and landlovers everywhere.

RURAL CANADA is different entirely from any other Canadian Farm Paper, because it is edited and published mainly for the women folk in our Canadian farm homes.

AS soon as your answers are received we shall write and tell you how many of the names you have solved correctly, and send you free a copy of this month's fine issue of RURAL CANADA. Then when you know your standing for the big prizes you will be asked to help us advertise and introduce RURAL CANADA in your neighborhood by showing your copy of the new magazine to just four of your friends and neighbors who will appreciate the worth and high purpose of RURAL CANADA and want it to come to them every month. State your willingness to accord us this simple favor when you send your answers. It will only require a few minutes of your time and you are guaranteed and will be sent at once a big cash payment or valuable reward for your trouble. If you wish we will gladly send you extra sample copies to leave with your friends to read.

WHEN your answers to this interesting puzzle are received we shall gladly mail you without cost a sample copy of the latest issue in order that you and your friends may become acquainted with this great new publication and realize the place in Canadian Home Life that RURAL CANADA now occupies.

It is entertaining as well as instructive. It abounds in fine short stories, timely articles, fashions, embroideries, crochet work, recipes, a children's page, a family doctor and many other fine features. Its editorials are inspiring and uplifting. In short, to know RURAL CANADA is to love it. You and your friends will be glad to make the acquaintance of so bright, interesting and good a magazine.

Follow These Simple Rules Governing Entry to the Contest

WRITE on one side of the paper only. On one sheet of paper put your answers to the puzzle pictures, with your full name and address, (stating Mr., Mrs. or Miss) in the upper right hand corner. Anything other than this must be on a separate sheet of paper.

Boys and girls under ten years of age are not allowed to send answers to this Contest, because later on we intend to have a fine contest for our boy and girl friends. Employees of this company are absolutely debarred from competing.

To ensure absolute fairness and impartiality in awarding the prizes, the properly qualified entries will be judged by a committee of three well known gentlemen, having no connection whatever with this firm, and contestants must agree to abide by their decisions. The prizes will be awarded to the duly qualified contestants whose entries show the greatest number of correct or nearly correct names and are considered by the judges to be nearest and best written. (Prizes are paid [illegible] and every entry also has a good [illegible] A contestant may send in as many sets of answers to the puzzle [illegible] but only one will be allowed to win a prize and [illegible] Contest will close [illegible] after which the judges will award the prizes.

Send [illegible] your free sample copy of RURAL CANADA, prize list, etc.

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AUGUST 28, 1917.

DATES OF ISSUE

September 11-25
October 9-23
November 6-20
December 4-18

EXHIBITION TIME WILL SOON BE HERE

Exhibition time will soon be here. Despite the adverse seeding conditions that prevailed last May and June, the farmers of the Maritime Provinces were able to plant and sow the major portion of the areas planned for the respective crops. Growth has been rapid and present indications point to bountiful harvests. The choicest specimens of this seasons growth will be found at the fall fairs where farmers, gardeners, fruit growers and live stock breeders will exhibit and vie for supremacy.

In New Brunswick there will be only one large fair, the Charlotte County Exhibition, held in the pretty border town, St. Stephen. While this is only a county fair, the attendance usually compares favorably with that at some of the larger provincial fairs, and the exhibits in the various classes are usually of no mean order.

Of course there will be a number of small district fairs held in the province as heretofore. The St. Stephen dates are September 11th to 14th inclusive.

In Prince Edward Island the provincial fair will be held as usual in Charlottetown, from September 25th to 28th inclusive. It is always worth while visiting Charlottetown during the fair week. The admirer of good horses, cattle, sheep and swine, will find something to interest him in these lines at the Island fair.

At Halifax, the big Nova Scotia Provincial Exhibition will be held from September 12th to 19th, and farmers who wish to combine an educational trip with business and pleasure, will be well advised to visit the Garrison City while the big fair is being held.

Yarmouth and Sydney will hold their fairs later in the season. As in New Brunswick, a number of smaller fairs will also be held in Nova Scotia and Prince Edward Island.

Patronize as many as you conveniently can. You will find many exhibits that will interest you.

PULVERIZED LIME

It is a well recognized fact that a great many of our Maritime farms are composed of soils that are acid to a degree that is detrimental to the best growth of farm crops.

Next to clearing the land for cultivation purposes, the most important operation as we see it, is the proper draining off of all surplus water from the soil. The liming of the soil to sweeten it for plant growth, is the next most important factor.

Given well cleaned, well drained soil, free from excess acid, the farmer is reasonably sure of a good crop if he uses good seed and practices a good tillage system.

Many soils that have natural drainage are acid, so that the use of adequate applications of ground lime stone is indeed an important factor.

Experiments prove that it pays to use ground limestone. Several commercial plants for the manufacture of this product are in operation in the Maritime Provinces. Farmers living within a certain radius of these plants, or who have the advantage of good transportation facilities, may procure ground lime stone at fairly reasonble prices. Then there are sections remote from the lines of transportation, where there is an abundance of lime rock that the farmers may quarry and get in readiness for the government lime stone pulverizing machine, that will be sent there on application to do the work at the lowest possible cost.

It is well for farmers who reside where there is an abundance of limestone, to write their Department of Agriculture, setting forth the conditions that exist in their locality, and make application for a demonstration. We have seen this work done in several localities, and we have noted the beneficial results accruing from the use o fthe pulverized lime stone thus produced. We believe the time is not far distant when lime pulverizing machines will be available in many sections where limestone is available, and it will be over the very best and most profitable community investments.

Such an outfit is not expensive and it is easy to operate with power already at hand; it is just one more means of keeping the engine busy at a profit.

The pulverized rock is the proper means for liming the soil. Burned lime is sometimes recommended as being the best to use. But successive years of comparative trials in the fields of various experiment stations have demonstrated that pulverized limestone is likely to produce better results than burned lime. It is also safer to use; since it has no injurious effect whether applied at any time or in any quantity.

An item that will interest the prospective buyer of a lime pulverizing machine is that it is not important to have the limestone ground extremely fine. Continued experiment has demonstrated that if the stone is ground fine enough so that it will all pass a sieve with 10 meshes to the inch, and contains all the fine material produced in grinding it to this degree, it is as fine as need be for practical use. So that a portable crusher is very practicable, not only because of the opportunity it offers for profitable work for the engine, but as the indirect means of increasing the productiveness of all land in the neighborhood. As an instance we quote a New York agricultural experiment station bulletin stating that three-fourths or more of the farm lands of that state would be greatly benefited by a liberal application of lime in some form. In fact, such a treatment is fundamental to any rational method for improving these soils.

SAVING THE CALVES AND LAMBS

People who think that every piece of veal they see served means diminishing the supply of milk or of beef in the future are mistaken. Most of the calves used for veal are fit only for veal. They would make neither good milch cows nor good beef cattle. They aren't bred of the proper stock for either. They are defective in both ancestry and architecture.

Most of the veal calves butchered in this country come from the dairy farms. The average dairy farmer is inteested only in milk production. His cows are bred usually to any kind of bull and their calves taken from them as quickly as possible, so that the milk may be had for market. Were these cows bred to high grade beef bulls, their calves could either be raised by the dairy farmer and sold for beef, or sold to some other farmer who would so raise them. But as it is, the ordinary calf that is sold for veal would not be worth as beef the cost of the grain to fatten it. Therefore its only value is as veal. This does not apply to the up-to-date dairy farmer who breeds his cows to pure bred bulls of breeds known for their milk production. These calves are too valuable to be sold for veal and are raised. So too are the calves of well graded beef herds, whether on the farm or range. The delicacy known as veal comes chiefly from the dairy herds near our large cities and would be a losing proposition for any man who tried to raise him for beef.

But young ewe lambs should not be eaten. The world in general and this country particularly is short of wool and breeding sheep, so short that we ought to raise all the ewe lambs that are fit to raise for breeding. And most ewe lambs are because the sheep raiser knows that he must have good stock to get good wool, so the majority of the ewe lambs are fit to raise. The lambs, if raised, produce regular crops of wool and also when they grow up furnish a greater supply of mutton.

Meantime, while we are seeking ways and means of stopping waste and saving our meat-producing animals, if people would use the cheaper cuts of beef, and study how to prepare them in the appetizing ways that are possible, that also would help a lot to relieve the situation.

REVIVAL IN SHEEP INDUSTRY

Interest in sheep raising is rising rapidly. The prices current for wool, mutton and lamb explain this interest. Some farmers hesitate to invest on account of the ravages of dogs, but every business has its perils.

The recent changes in the Sheep and Dog Act in New Brunswick gives the sheep breeders of the province better protection than is enjoyed by their fellow breeders in the other provinces.

Save the young ewes and ewe lambs this fall and breed them to the best pure bred ram you can afford. The industry is booming and is bound to boom for many years. Be ready to share in the profits.

* * *

This is the dawn of the tractor age, and he is wise who investigates its possibilities, forecasts its future, and shares in its opportunities and benefits.

CURING CLOVER BLOAT IN CATTLE AN EASY MATTER

Tympany, or bloating, in cattle may follow the ingestion of certain foods. A sudden change from dry feed to a green, succulent feed of any kind may induce bloating. Alfalfa and clover, especially the red and white varieties of clover while in flower, are particularly dangerous in this respect. Turnips, potatoes and cabbage may induce bloating; middlings and corn meal frequently do so. Grass or clover, when wet with dew or rain or when covered with hoar frost, should be regarded as dangerous.

As a rule the onset of bloating is rather sudden. The animal is nervous, moves uneasily, and is distressed. The swelling of the left flank is characteristic and in marked cases the upper portion of the flank rises above the level of the back, and when struck with the fingers resounds like a drum. The breathing becomes more difficult, the animal reels on walking or standing, in a short time falls and, if not allowed, dies of suffocation.

During the spring of 1913 several cases of bloat occurred in the station dairy herd and our attention was called to the necessity for further study of this condition. Following the unusual production of clover in the pastures in 1913, the growth of grass in the spring of 1914 was so luxurious that little clover appeared and we did not have a single case of bloat in 1914. During the spring of 1915 the clover was again returning and five cases of bloat occurred in the dairy herd. The spring of 1916 presented the banner crop of clover in the pastures, in many cases the clover blossoms at a distance resembling snow. This spring also afforded a large number of cases of bloat, the first before the clover blossoms.

We were able to demonstrate that red and white clover blossoms alfalfa blooms and, in seasons of luxuriant growth, clover leaves contain sufficient quantities of sugar, and are contaminated with sufficient numbers of either wild yeasts or sugar-splitting microorganisms to cause an active fermentation in the rumen of cattle eating these substances heartily. This process is a true fermentation.

In clover bloat an ounce of prevention is worth a pound of cure. When, in the spring, cattle are first turned on clover or other greed feed the change should be made gradually, and this is best accomplished by having the cattle graze for 20 to 30 minutes the first day, increasing this period each day until the digestive organs become accustomed to the green, succulent feed. During the early weeks of spring, cattle should not remain in the pasture over night nor be turned on pasture while the dew or frost is on the grass. An excellent practice is to feed cattle a little hay or other dry feed just before turning them on pasture. Watchfulness during a week or two of early spring will prevent many cases of bloat.

When bloating does occur it may be promptly relieved by drenching the animal with one quart of a 1 ½ per cent. solution of formalin in water, at the same time propping the mouth open with a block of wood and, if possible, inducing gentle exercise. After the animal has recovered, a second drench, composed of 1 pound of Epsom salts and ½ ounce of ground ginger in 1 pint of tepid water, should be administered. Formalin is a trade name for a 40 per cent. solution of formaldehyde gas in water and may be obtained in any drug store. One-half ounce of formalin added to 1 quart of water makes the proper solution with which to drench the animal.

During the past 4 years we have used this formalin treatment for clover bloat with marked success. During this period we have had 18 cases of clover bloat in the experiment station dairy herd. Two of these cases died before any treatment could be used. The remaining 16 received the formalin treatment, and 14 of them promptly recovered in from 20 minutes to an hour. Two of the cases did not recover promptly and were punctured, after which they promptly recovered. Two of the cases went off feed and the milk diminished following the clover bloat with formalin treatment, but returned to normal after a few days.

In severe cases it becomes necessary to puncture the paunch. In such cases this should be promptly done. The instrument used for this operation is made in two parts, a trocar fitting within a canula, similar to a sword in its scabbard. This instrument is first sterilized by boiling for a few minutes in water containing a small quantity of washing soda, or by immersing in 50 per cent alcohol for 5 to 10 minutes. The sterilized instrument is then boldly plunged through the skin of the animal's left side, midway between the last rib and the hip bone, into the paunch. Then the trocar is withdrawn from the canula, which remains in position and allows the gas to escape from the pounch. This operation will be less dangerous if the animal has been first drenched with the formalin solution. When the animal is relieved the Epsom salts and ginger drench should be administered.

SAFETY MEASURES TO ADOPT IN A LIGHTNING STORM

It may comfort those who dread the approach of a thunderstorm to know that here in Canada the average person is ten times more likely to be drowned or fatally shot than to be killed by lightning. Moreover, of every three persons actually struck by lightning, two probably will survive the shock.

Thunderstorm frequently seems to depend upon the moon's phases, according to statistics gathered by Professor W. H. Pickering, the astronomer of Harvard University. According to his tables we may look for such outbursts particularly between new moon and first quarter, while they are fewest between full moon and last quarter. If this rule may really be depended upon, it is safer to go camping when the moon is shrinking than when it is swelling.

The oak is the most dangerous and the beech the safest tree to stand under during a thunderstorm.

The oak is struck fifty-seven, the fir thirty-nine and the pine five times as often as the beech. Statistics for other trees are too scattering for comparison Many people have believed that the beech, birch and maple are never struck, but this is untrue, although these trees are seldom struck. The oak suffers most because it is the best conductor of electricity. Some investigators claim also that a decayed tree is a better conductor than a live one.

Trees standing alone are in greatest danger of being struck, whereas one of the safest refuges from a thunderstorm is the heart of a dense forest. Picnickers caught in the woods by such a storm should stay as near the center as possible, for a dense growth of trees offers the same safety as does a thickly-built community.

Tall trees offer little protection even to small buildings, despite the common notion of country people that they offer better security than lightning rods. Trees most usually struck average in height from fifty-two to sxty-six feet. All trees are in greater danger if near bodies of water than if in dry places. Even narrow ditches or rain puddles add to their danger. A majority of those who are killed by lightning are struck while standing under trees.

There are annually struck four times as many people of outdoor occupations as people in general. This shows that we should take care to be indoors during a storm, whether in the city or country.

People caught in a thunderstorm should not collect in crowds or stand near cattle or other animals grouped together. Large aggregations of men or beasts offer much greater attractions for thunderbolts than do individuals scattered about, singly; for the material of the living body, whether that of a man or beast, is even a better conductor of electricity than the wood of trees. Thus a man or an animal leaning against a tree receives the full discharge of lightning if the latter strikes the tree. And where there is a collection of material of considerable conductivity, whether flesh or iron, the lightning is attracted the more readily.

As to the relative dangers of farm animals statistics show that there are struck more than twice as many cattle as sheep, more sheep than horses, more horses than pigs, and more pigs than mules. Farm animals are often killed in large numbers while huddling together, not only under scattered trees, but near wire fences. Such fences should be "grounded" at frequent intervals—every two or three hundred yards—by an iron wire running down the post into the ground and joined to the fence wires by staples..

Barns, sheds and warehouses are struck more often than dwellings, stores or office buildings, while churches and schools are struck the least often of all, according to the most complete statistics; but just why this is so out meteorologists are as yet unable to determine. Three times as many barns as dwellings are struck annually. The roof most often destroyed by lightning is that of wood, that of slate ranking next, and that of metal being the safest of all. This is because metal, being, of these three materials, the best conductor, scatters the electric current, which escapes before the house can be set on fire.

The use of lightning rods has fallen off in our country within the last generation, yet the question whether they are really needed comes up when the home-maker builds his first house. Professor A. J. Henry, the lightning expert, has this to say on the matter: "In large cities the use of lightning rods is not imperative owing to the prevalence of modern steel structures, and, in general, buildings with metal roofs. For buildings which stand isolated in the open country the prudent course would be to install thereon a system of protection from lightning."

It is advisable to stand back from windows or doorways during thunderstorms, since the lightning, if it strikes the house on that side, might enter at such a point of decreased resistance. But whether the window is up or down is a small matter, beyond keeping out the rain, as a powerful thunderbolt, if aimed at a window, would not be blocked from its course by a thin sheet of glass. It is further advised that we should keep away from chimneys, or fireplaces opening into chimneys. The chimney, being the tallest projection, is the probable path which lightning would take if striking an unprotected house. Another warning has been sounded by the Weather Bureau against attachnig wire clothesline to the house, whither it is very likely to lead lightning. A very dangerous position indoors is against a wall near where such a line is fastened outdoors.

J. E. Watkins.

SPRAYING TO CONTROL THE POTATO BLIGHT

Spraying potatoes is practised for two main reasons; first, to control the Colorado beetle, and secondly, to control late blight. There are other minor reasons. Experiments have shown that several solutions will destroy the Colorado bettle, but spraying should be done thoroughly All plants and all parts thereof should be well covered. In the case of a plant that has been only partially sprayed, the unsprayed portion will be eaten off by beetles very quickly. Careless spraying will leave enough of the beetles to keep up the work of destruction. One spraying carefully applied is better than several shiftlessly done. Two special applications are recommended for beetles, one when the plants are from four to six inches high, to be followed by another from one to two weeks later It may be necessary to do the spraying earlier or at shorter intervals if the attack is particularly severe.

The following solution is recommended: 8 to 10 ounces of Paris Green, 1½ to 2 pounds of arsenate of lead to 40 imperial gallons of water. Swift's arsenate of lead should be used It comes in kegs in the form of a soft paste, which readily dissolves with stirring. Paris Green is a deadly poison which does not dissolve in water and must be held in suspension by constant stirring.

This solution adheres satisfactorily to the foliage and controls the ravages of the beetle. Spraying should generally be commenced about the first of July and continued once every two weeks until harvest, using "poisoned" Bordeaux of the following composition: Four pounds of lime or more if necessary; six pounds sulphate of copper, twelve ounces of Paris Green, 40 imperial gallons water.

Spraying should not be done on windy days. It is advisable to spray early in the morning or to commence two hours before sunset, and it should be postponed in unsettled weather, but thoroughly done after a period of rain.

To prepare the Bordeaux mixture, slake a quantity of quicklime in one or more barrels and fill them with the paste almost to the top, keeping the lime covered with water, or the lime surface will dry up, become lumpy and interfere with straining. Prepare a "stock solution" of blue stone in such concentration that when using one gallon of (stirred) mixture, one pound of the chemical in solution is contained therein. To do this dissolve two pounds of blue stone in two gallons of hot water, and empty the two gallons into a barrel; repeat the process until you have one or two barrels full of the "stock solution." Then if you take for use one gallon of "stock solution" you will have one pound of copper sulphate.

To make forty gallons of spray you will require six pounds of copper sulphate with an excess of lime, i.e., an amount sufficient to prevent injury to the leaves. Therefore, have a barrel containing some 33 gallons of water, and add to this six gallons of the sulphate of copper "stock solution," (or six pounds of dissolved chemical). Next add a quantity of lime paste and stir well until dissolved. When dissolved use a testing fluid to ascertain excess or deficiency of lime. The test solution is as follows:

One-half ounce potassium ferrocyauide (poison) dissolved in one-half pint of water. Fill this solution into a dropping bottle. Having added and dissolved the lime in the copper sulphate solution, as described above, stir well the contents of the barrel and allow one minute to settle, then drop a few drops of the "test solution" into it. If these on striking the surface color the liquid brownish, add more lime, stir until dissolved and test again; if the mixture does not change color, the solution contains the proper amount of lime. Finally, add to each 40 gallons of spray the proper quantity of Paris Green, strain through brass wire cloth strainer into pump and solution is eady for spraying. Replenish "stock solution" as required.

HORTICULTURE

CO-OPERATION IN GROWING AND MARKETING APPLES IN CANADA

In dealing with the subject of co-operation in the growing and marketing of apples in Canada it will be necessary, in order to discuss the matter intelligently, to discriminate to some extent between the many forms of so-called co-operation and successful co-operation.

It is not my intention here to attack the apple dealers, nor do I join with those who declare that the ultimate goal of co-operation is the complete elimination of the middleman. Nothing in my judgment could be further from the true spirit of co-operation, and it must be admitted that a great deal of pioneer work in the past in the creation of markets should be credited to the dealers or middlemen.

Here, too, we must discriminate between the reputable business man who in the past made heavy investments of his own money in what he considered a legitimate business on the one side, and the army of undesirables known as itinerant buyers on the other, who had everything to gain and nothing to lose. Growers need have no worry about middlemen, as, under co-operation perfected along proper lines and applied intelligently, the undesirable dealers will work out automatically, and the obstructions between the producer and consumer will be reduced to a minimum.

But there always will be a place for the reputable middleman; he is as sure to be with us as the tax collector. Our butcher and our baker are middlemen, and it matters little to the grower when his product is ready to offer for sale on a competitive market, who the buyer is, so long as he receives a fair price for the goods. The keen business man, too, who has worked up large business connections, is in the very best position to place orders and create new markets, and perhaps his efforts may become a strong factor in securing successful results in what might have been started in a co-operative way.

Aims of Co-operation

Now, what are the real aims of co-operation in the apple business? First, to make it possible for the small growers to place their fruit in the best markets by the grouping of shipments. Second, to reduce the cost of production and packing by purchasing collectively supplies for orchard work and by centralizing the management of packing and shipment. Third, to create a friendly rivalry between growers so that a maximum percentage of high-class fruit will be produced. Fourth, that being in a position to offer for sale large quantities of uniformly packed fruit, the best buyers will be attracted. Firth, co-operation is a security for the consumer that he is getting what he buys, inasmuch as the manager, being an uninterested party, would pack according to the rules of the association.

It has been said that "It is not well that man should pack his own apples." It was once recommended that where two growers Smith and Jones were living side by side that, when packing time came, Smith should pack Jones' apples and Jones in turn should pack Smith's. We never did get quite this far in Canada, as the co-operative plan stepped in and the packing was centralized under expert management.

Surplus of Fruit

The apple industry of Canada originated in the planting of small orchards by the settlers, the product of which was intended for home use. Occasionally, however, large orchards were planted here and there in Ontario and a still larger number of such in Nova Scotia, no doubt intended for commercial purposes. Soon these orchards produced a surplus over local demands, and it was then that here and there an enterprising dealer took a chance and began making small shipments to Europe. Many of the shipments showed large profits and the trade grew by leaps and bounds. The dealers for some years controlled the shipping of fruit, assuming that by divine right that was their part of the game. The growers seemed to think so, too, and submissively took what was given them.

Soon, however, the trade passed into the hands of the itinerant buyers, who sprang up all over the country; they would make their appearance when the demand was good, but in the case of a full-crop season the unfortunate grower would look in vain for a buyer and thousands of barrels of good fruit remained on the trees. Then it was that the necessity of some move on the part of the growers presented itself, and, in 1896, when the first huge glut occurred, the first nibble at co-operative shipping was attempted. A number of growers mutually agreed to group their small lots together making up carloads for export. The fruit was packed by the growers whose names were branded on the packages. A man schooled in the art of shipping looked after the shipments at a fixed sum per barrel. In some cases little or nothing came back to the growers.

Packing Law

One year under this plan seemed to satisfy the growers that they were never born to be shippers, and that the part they were to play in the apple game was to plant the trees, board the apple gangs, and draw the fruit to the shipping stations. In the last years of the '90's the Canadian apple trade that had been gradually running into disrepute reached the climax. Then came the Fruit-Marks Act, or Packing Law, and the co-operative movement. The operation of the law soon drove the unscrupulous packers out of business, and the growers were confronted with the necessity of finding some means of marketing their fruit. The co-operative plan seemed to be the best thing in sight and scores of associations sprang up all over the fruit-growing districts. The two main principals governing these associations were: First, the association brand was to be placed on all packages, and the packing was to be under the supervision of a manager; second, a condition was inserted in the by-laws making it obligatory on the part of all members to spray and care for their orchards.

Co-opeation like all new movements was bound to strike some snags and many of the weaker associations that did not follow business methods, or were too small to support a proper management, went down after a few seasons' trial, but the principle was sound, and, with the aid of the packing law, it can be said to have redeemed the apple industry of Canada.

Co-operation in Nova Scotia

Perhaps in the Annapolis Valley, N. S., is shown the most striking example of the co-operative movement in Canada. This valley less than one hundred miles in length has some fifty local associations and is dotted with storehouses—some of the associations having several. These buildings are frost proof, usually 100 feet by 40 feet in size, having a basement the full size of the building. To these buildings the fruit is hauled and the work of packing for shipment is supervised by expert packers.

While the co-operative plan thus far carried out completely revolutionized the handling of apples in Nova Scotia, yet it was shown that the methods were still faulty, inasmuch as the different associations developed a keen competition in selling their fruit. Some, in order to make a sale, would undersell their competitors, and it was a common occurrence to see, in the markets of the Northwest, Nova Scotia apples of same quality offered for sale side by side in which the purchasing price varied 50 cents to $1.00 a barrel. Neither was there any control o fthe distribution of shipments, the result being that while some markets were oversupplied others were bare of fruit.

This state of affairs plainly showed the necessity of some further move on the part of the growers, and as a result there came into being what is known as the "United Frut Companies of Nova Scotia Limited." The membership of this company is composed of the local associations, and while the local managers still look after the packing, all sales and general business is carried on through the central association, with offices located at a central point. Of course it would be too much to expect that all the smaller associations would rush to the central one, but it has a very large following and its operation has shown that there remains but little more to be done to perfect the plan of co-operation in order to reach the highest aims of the apple growers.

The Buying of Supplies

In addition to looking after the marketing end, the central association has taken up the matter of supplies for the growers. The many storehouses are utilized for the storing of same, which comprise everything that is necessary for the care of the orchard. Lately, however, the association has gone a little further in the way of supplies, which is shown by the following list of supplies for the last year:

Spray Material	$23,312
Nails, Pulp Head and General Merchandise	17,118
Fertilizer	90,241
Insurance Premiums	2,149
Flour and Feed	91,689
Seed Oats and Seeds	19,133

The company for several years have had a competent man placed in the European markets to look after shipments and observe conditions surrounding the marketing end of the apple business. This has proved of great value to the growers, who generally know but little of the many troubles met by their fruit while in transit and after being landed.

To show how expenses may be minimized by central organization, the salaries and expenses of the management of the central association are covered by a sum amounting to less than 5 cents per barrel. It may be that the growers are looking forward to a time when co-operation will form a complete chain between producer and consumer, but there may be a danger of carrying it too far. Perhaps co-operation will have served its purpose when it has encouraged and aided the growers in producing fruit of the best quality at a minimum cost, packing it honestly under the best methods, and offering for sale, free from any handicap, to world-wide competition through the natural channels of trade. The apple business at this stage would enter into another phase and it would then be up to the consumer to look after his end of the problem.

The Social Side of Co-operation

Where co-operation has not been a success, the troubles are easily traced. The chief one being the lack of loyalty on the part of the members. Then every association has its knockers. Jealousies often creep in, competent managers are hard to secure, but when the whole matter is summed up it can be said without question that the co-operation in the handling of apples in Canada has been a great success.

So absorbed are we in the mighty dollar, we are apt to overlook the good that is brought about by co-operation in a social way. The co-operative spirit is a sure cure for selfishness, an evil that apple growers possess as well as other classes. It is a cure for the fellow who, when he thinks he has discovered something to his advantage, hides it carefully under his hat. The true co-operative spirit carried out along proper lines makes a community like one big family striving to make the best out of life and its activities, makes us better men and women, and makes for a higher standard of citizenship.—P. J. Carey, Dominion Fruit Branch, Ottawa, Canada, in American Fruit Grower.

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PROTECTING FRUIT TREES AGAINST BORERS AND RABBITS

Such parasites or "free boarders" as fruit-tree borers and rabbits may cause great damage to both young and old trees if not carefully guarded against.

Grade D asphaltum is perhaps the best protector against those prowling submarines, the root or crown borers.

Remove the soil down to the main roots and apply the asphalt, while warm, with a brush, covering with a thick coat to at least six inches above the ground. By extending this coat up to the first branches on young trees, the flat-headed borers and also rabbits will be held at bay.

If newly planted trees are protected from sunburn by shading or by whitewashing there will be little danger from the flat-headed borers, as

they rarely attack trees that are healthy.

Wooden veneer or screen wire wrappers which may be thrust into the ground for about two or three inches are reliable potectors against borers. If these wrappers extend up to the branches they form a true safeguard against trunk injury from both borers and rabbits.

If borers are already in the trees when asphaltum is applied they will certainly perish if the asphalting has been well done, as they will be unable to come out and go through their later period of development, and therefore, they can never become full-grown insects to lay more eggs.

Do not use tar of any kind as a surface covering, as the trees are very apt to be killed. The same is true of axle grease or anything containing creosote. However, washes containing vile-smelling materials like asafetida may be safely used as repellants against rabbits.

STUDYING POLLINATION

California, with her enormous prune industry, has for the past three years conducted experiments that seek to solve some pollination problems. The resulting bulletin, No. 274, from the College of Agriculture, Berkeley, Call., is worthy the perusal of every horticulturist.

Most interesting are the results of a special experiment upon two pairs of adjoining French and Imperial prune trees which were inclosed in large tents of mosquito bar before the blossoms opened. Into one of these tents a hive of honey bees was introduced and there kept throughout the blossoming period. Into the other tent no insect of any sort was admitted during the blossoming period.

The table of percentages of fruit that actually matured shows that, while the French prune responded almost excessively to the pollenization of the bees, the Imperial prune for some unknown reason fell below the average orchard set, though quite beyond the tree from which all insects had been excluded.

Further experiments are promised along this line in an endeavor to solve the puzzle of the poor set of fruit on this Imperial prune tree.

The bulletin is very suggestive for fruit farmers of all sections, and especially interesting is the project of the prune growers to hire hives of bees from men having large swarms and to place them in the orchards during the blossoming period. This plan is already in use in the orange groves of Southern California.

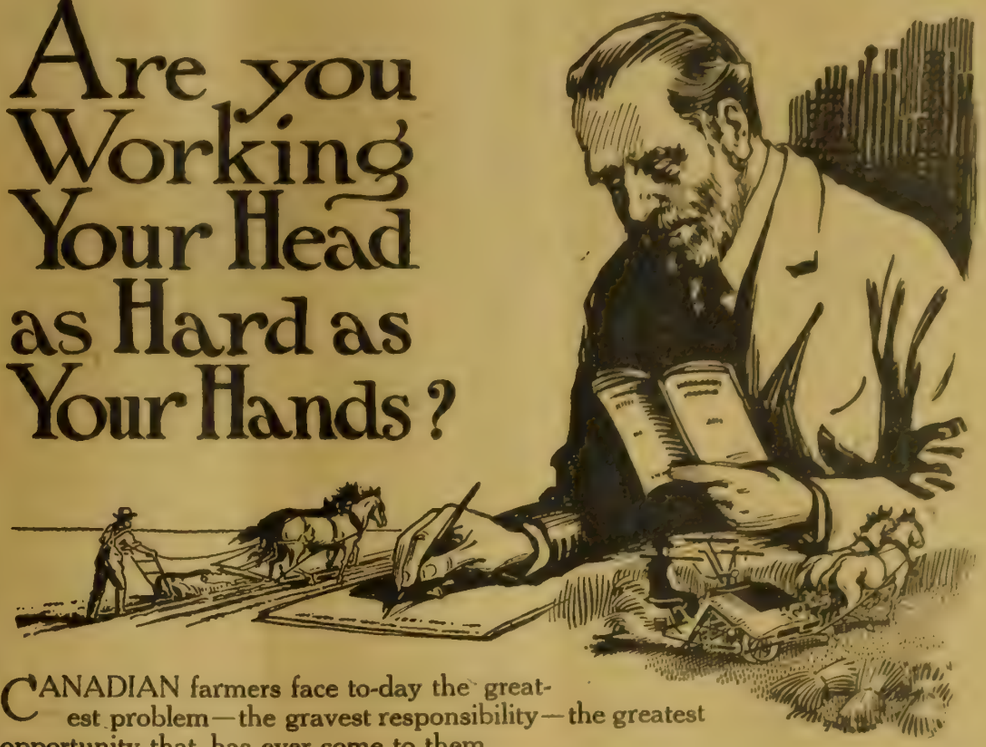
IMPORTANCE OF ROOT HAIRS

The root system of a plant is divided and sub-divided into many fine rootlets. There arise from the surfaces of all growing rootlets, very small, simple structures, the root hairs. Practically all the water and mineral nutrients are taken in from the soil through these root hairs. The absorbing surface of a root bearing hairs is from five to ten times that of a hairless root of equal size. The importance of root hairs may be judged from the above statements.

Root hairs are being formed anew constantly. The life of any individual hair is very short, as a rule. They are extremely sensitive to air and soil conditions. They collapse immediately on exposure to air. Cold soil and very wet soil retard their development.

Usually, when a seedling is transplanted, the root hairs immediately die. Wilting of the plant results and it does not revive until new root hairs are formed. In order to compensate for the destruction of root hairs in seedling transplanting, it is customary to cut back the water-losing organs, the leaves. In transplanting seedlings, pains should be taken to preserve the finer, young, growing, and root-hair producing rootlets.—W. W. Robbins.

Are you Working Your Head as Hard as Your Hands?



CANADIAN farmers face to-day the greatest problem—the gravest responsibility—the greatest opportunity that has ever come to them.

Three years of fighting has made food the one vital factor in the struggle. If the Entente Armies and the workers behind them can be kept well fed, victory is certain. To this "if" the farmer alone can supply the answer, "yes."

The problem is enormous, expressed in hundreds of millions of bushels of grains. The answer must come in the few hundred or even few score extra bushels which each individual farmer can manage to grow. Head work is needed to make the utmost of the limited supply of labor. Only be careful planning and better methods can the increases so urgently needed be made.

Every bushel added to the food supply available for 1918 will be a definite service to the Empire, and at the same time will bring its own reward to the grower—for never in this generation have crops brought such returns. Never has there been such a patriotic incentive to make big money, for

Profits Lent to Canada Help to Win the War

Buy War Saving Certificates now and at the end of three years you will get back $25 for every $21.50 you invest now—an interest return of over 5%. Certificates in denominations yf $25, $50 and $100 may be purchased for $21.50, $43 and $86 respectively, at any Bank or Money Order Post Office.

The National Service Board of Canada

OTTAWA

MEANS OF CONTROLLING CHERRY AND PEAR TREE SLUGS

The slimy looking larvae or "slugs" that eat the surface off the leaves of cherry and pear trees during July and August are easily killed. If there is no fruit on the trees, the best way is to spray the trees with arsenate of lead in the proportion of 1 pound of the powder, or 2 pounds of the paste, to each 50 gallons of water. A fine spray is best, and should be applied so as to cover the upper surface of the leaves, where most of the feeding is done.

In case there is fruit on the trees you may use white hellebore, 1 ounce to 3 gallons of water. This will kill the slugs and do no harm to people who eat the fruit.

The same results may be secured by spraying with a strong tobacco decoction, such as Black Leaf 40, 1 part in 800 parts of water.

A thoro dusting with slacked lime, ashes or fine road dust will usually be successful in removing the slugs from the leaves.—C P. Gillette, Colorado Agricultural College.

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DAIRYING.

USE OF DAIRY BY-PRODUCTS

Contrary to popular opinion, skim, or separated milk is a very valuable feeding material, containing, as it does, all those nutritive constituents found in the whole new milk, with the single exception of the fat.

Now, butter is one of the most expensive forms of fat available to purchase, and consequently a very considerable economy can be effected by the use of some cheap form of fat and the separated milk, in place of whole new milk, whether it be in the household or in feeding stock on the holding

Apart from this, it is quite easy to produce cheese of useful feeding value, such as Caerphilly and Dorset Blue, from milk which has had a large proportion of its fat removed.

It is obviously extravagant and wasteful to feed butter fat to calves. They will do quite as well, as has already been demonstrated, on fat substitutes and cream equivalent used in conjunction with separated milk, as they will on the whole new milk.

Pigs, again, are never more profitable than when cheap dairy by-products in the form of separated milk, butter milk, or whey from the dairy are available for feeding, in conjunction with those concentrated foods that are produced on the holding, or can be purchased at a reasonable figure.

In commercial industries the value of these dairy by-products has long been recognised, unfortunately, more often abroad than in our own country. For example, separated milk contains a fair proportion of casein, which will coagulate and form a curd with the addition of rennet or dilute acid, and we have already seen this curd may be used for the manufacture of cheese. Now, however, chemists have discovered a variety of means whereby casein can be profitably utilised. For example, it has been found that, on the addition of formaldehyde, the casein may be thrown out into a soluble mass, in which condition it may be used for a number of purposes, as, for example, in the manufacture of phonagraphic plates, billiard balls, shoe polish, ointments, wood-cement, washable drawing paper, and water-proofing paper. Its plastic and adhesive nature has also been rendered very valuable for the manufacture of paints, washes, and enamels, and especially in the case of cold-water paint, casein cement, "marble lime," enamel paint, and calsomine wash.

Apart from these commercial uses is the manufacture of patent foods, in which the actual feeding value of casein has been put to a very good use, the curd being dried and reduced as Sanatogen, which contains as much as 95 per cent. of casein. Plasmon, again, contains 75 to 80 per cent., and Dr. Regal's Milk Albumen, Lacterine, and Calactogen, and many other casein foods, consist of dried casein mixed with starchy materials, such as flour, rice, arrowroot, tapioca, etc.

The actual cost of the production of the dried casein in these foods is at the rate of about 6d. per lb. Another use for casein is that in the manufacture of baking powders, many of which comprise casein phosphorates, made by compounding casein with lime phosphorate and water, or by simply mixing the casein with bi-carbonate of soda. AGROSTIS.

THE COW'S UDDER

In these days when dairy cows are selling for big prices, one has to be pretty careful in buying. Assuming that a buyer gives a good figure a piece for a bunch of good-looking in-calf heifers, he never knows what his luck is going to be when they calve down; some may have promising bags, while others are of the "beefy" type, and have to be passed on for feeding.

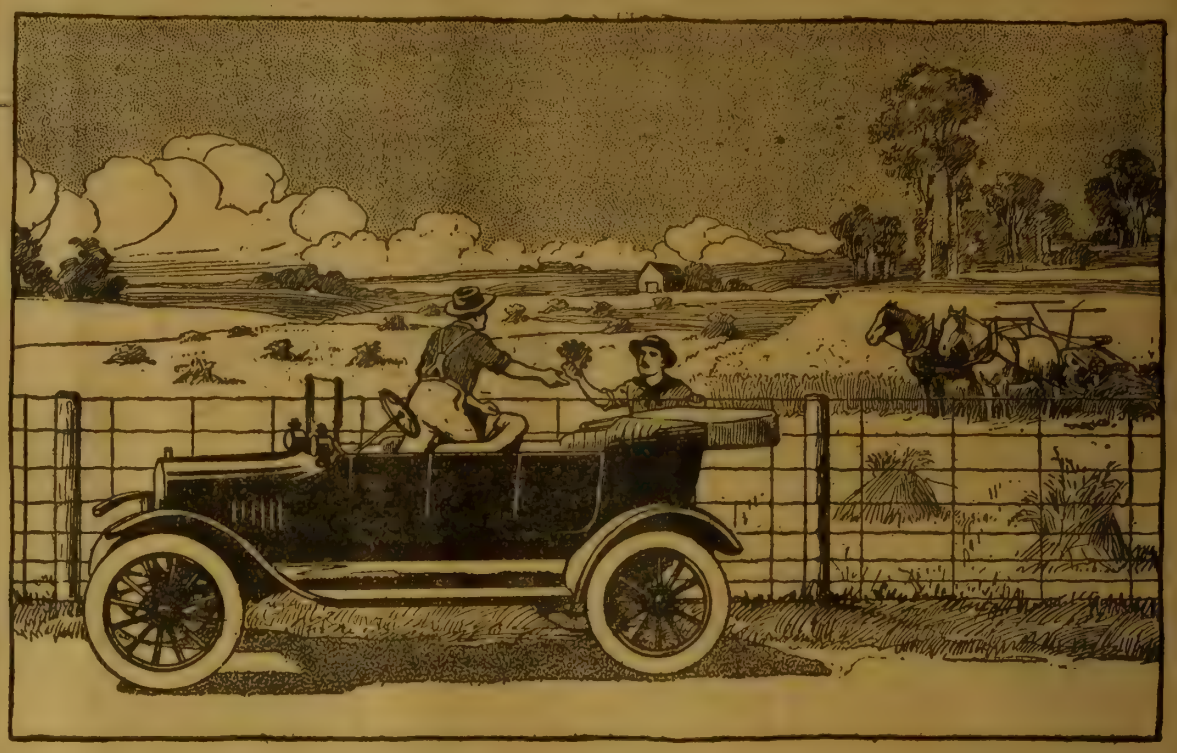
When buying newly calved cows at these high prices, much depends on the quality and condition of the udder, as a cow without a good udder is something like a horse with a defective foot. It is quite certain that a cow is worthless as a milker without an udder, but let her be ever so deficient in other points so long as the udder is conspicuous, or exceptionally prominent, she will be accepted with open arms.

The Question of the Udder

Although by no means an invariable guide to the capabilities or perfection of the cow, it is the quantity of milk likely to be given that the udder indicates, and neither the size nor the form of it divulges the quality of the milk given. But quantity is also a leading point, and the cow with the largest udder is generally the highest priced whenever she changes hands; hence the demand for large-uddered cows. Some have studied the production of cows that will yield excessive milk and the highest class of butter, but as yet little has been heard of breeding for great udders. No doubt some will have thought of it, and we may hear more of it in time.

Dealers are intimately acquainted with the extra profits attached to a huge udder. Their utmost endeavours are directed to their production

If they get a cow that has naturally a fine bag they run her for all she is worth, and if the size is deficient it is extended to its utmost capacity by non-milking for days and nights before the cow is put on the market. This practice is most objectionable, both to the cows and buyers. It is a deception which most surely borders



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Count up the extra half days that a Ford will save you

during the rush of seeding, haying and harvest. You will find that the Ford will save you a week or more of valuable time on your necessary trips alone.

Many times you will want to take some produce along with you. Then your staunch Ford is ready to carry a load of 1000 pounds. How handy this would be?

Once you own a Ford and find out the many ways you can use it for business and pleasure you will wonder how you managed without it.

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on fraud, and is highly misleading. Thus, apart from mere appearance, the udder should be better understood by all who deal in cows.

There are Various Forms of Udders

But as long as it is huge, the correct type is often disregarded. There are udders which seem partially detached, and are not well collected round the usual position. This is often seen in old cows, and may be taken as an indication of age. Others have udders almost bottle shaped. The udder is long and narrow, and neither extends in front nor sticks out behind. This is a bad type, and the udder much to be preferred is a deep, wide, long, almost square-bottomed one, going bulky along the belly to a considerable distance, and filling up behind. Given a chance, excessive milkers. One that shows a great deal of udder behind the back legs and little in front is fourth rate. The teats, too, are indications of milk or the reverse. In some cows the four may be seen almost as close together as one's fingers, clustered and drooped. This is bad form, and such cows should not be bred from. Their type is not wanted.

The Teats Should be Wide Apart

The hind ones are usually larger than the front ones. This is no fault. Some cows have large teats, others small; but the size of the teat has little to do with the milk supply. Indeed, it has nothing, as some of the smallest-teated cows of the Ayrshire breed are tremendous milkers. The desire for big teats is a matter of convenience. Milkers all like a handful of teat, and little ones are apt to lead to the cow not being properly milked. But a good milker can manage the small ones nicely, and make no complaints.

Most cows with their first calves have small teats, but in time, with the constant drawing either in sucking or milking, the teat lengthens, and in the end some cows have large teats that are quite out of proportion. It is the milking that keeps them going, too, as when a teat is blind and not milked, the other three will be long and plump, while the disused one will be small and shrunken. Teats in all forms are, however, most important accompaniments to the udder, and, apart from a preference for size, whether they are all in working order or not is of the greatest importance. The one thing to avoid, above all matters in teats, is blindness. This is a term applied to a teat from which milk cannot be extracted. It may have been caused from careless milking or some ailment, but as a rule the blind teat is a result of careless treatment. It detracts pounds from the value of the cow as a milker, and many will not have such at any price. Three-teated cows will not give so much milk as if the four were going; but the quantity will not be a great deal less. Buy them at a price when newly calved, and at the end of milking convert them into beef or sell them for that purpose. The importance is shown by the fact that at all sales of high-class cows are on show, one of the first guarantees is that they are sound in their quarters, and this applies to their teats.

When Buying an In-Calver.

When a cow is bought before she calves, or when dry, her teats cannot be proved by drawing milk out of each one, as should invariably be done if milk is in them. Look at an old hand trying the cows in the market. He will go round every one that takes his fancy, and test their teats. If one fails the cow is shunned. If two teats are blind, she is worthless as a milker. While trying the teats the hands should be pressed hard into the udder. If the bag is hard and fleshy, the milk accommodation is pretty sure to be deficient; but if the udder is soft and pliable, there is room for milk.

The fleshy bag and the former we often find misleading, as it is always bulky, while the milky bag shrinks much when all the milk has been extracted, and this is the sort undoubtedly. Much can be learned at the market when a lot of cows are there, but a close observance at home and a thorough knowledge of every inch of the udder of the cow that is the best milker will help greatly to keep one from making deplorable mistakes.

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ARE GOOD COWS MIS-JUDGED?

Recently three cows that stood side by side were tested for nine consecutive milkings. The first cow had an average test of 3.7 per cent of fat, the maximum and minimum tests being 2.9 and 5.5.

The second cow had an average for the nine tests of 4.2 with maximum and minimum tests of 2.4 and 5.4. The average test for the third cow was 2.6, with extremes of 2.0 and 4.0

Hence it is evident that the laudable desire to know what a certain cow's milk tests for fat may be defeated entirely if only one sample is run through the machine.

In the light of the examples given above, as well as of hundreds of other instances on record, it is safe to conclude that a fair method is to test a composite sample of five or six milkings taken at intervals when the cow is in normal condition. This plan has given good results in the cow testing work of the dairy division, Ottawa. Write for full particulars, so that your good cows may not be misjudged on an isolated test. C. F. W.

HE KNOWS

"From my herd of eighteen cows I sold four hundred and twelve dollars worth of cream in June. I think I am doing very well"—writes a farmer when applying to the Dairy Division, Ottawa, for a further supply of daily milk record forms and a herd record book.

HE KNOWS just what each cow is doing, if she gives less than say thirty-six pounds of milk a day, he hunts round to find out why she dropped off in her yield and he tries immediately to prevent any repetition of unusual shrinkage.

He also tests once a month, a composite sample of six milkings so that again HE KNOWS which cows make the best returns in cream. After a few tests he sees that Daisy gives 4.5 milk and Buttercup gives onyl 3.6. He does not believe in a rough and ready, haphazard, easy-going "guess" as to how much fat the whole herd produces in a year; HE KNOWS from his milk record sheets and herd record book which cows are making money for him. Recently he sold some of his poorest because they did not make enough. Rather a good plan, isn't it? When you decide to follow such a sensible example, write for forms, they are free, and your letter need not even be stamped. C. F. W.

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LIVE STOCK.

NEW BRUNSWICK AS A SHEEP COUNTRY .

One often hears from an outsider the expression, "What a splendid sheep country New Brunswick would make." This is very true and we all know that it would, but have not realized it, and our sheep population has declined very rapidly. Often we get in a rut like this and pursue the even tenor of our ways oblivious to out natural advantages. However, there was a time when wool and lamb prices were very low and the sheep men became disgusted, and dropped out of the business, but now and for a long time to come, no one need fear any serious drop in prices. It is a well known fact that meat consumption is increasing and meat producing animals are decreasing in numbers the world over. Let us analyse the various sheep countries of the world and see what they have to offer. The Australian supply of mutton and wool is a questionable commodity. The country is subject to drought and this is sure to effect the sheep crop. Then they are situated a long way from the principle wool and mutton markets of the world, viz: London, Boston and New York. This disadvantage offsets many of the natural advantages in favor of Australia, as a sheep breeding country. Argentine is probably the most important exporting country in the world, that is to say they export a bigger per cent of their product than is the case of any other country. Sheep and beef are the two important classes of stock kept by the natives of Argentine. Poor railway and shipping facilities along with droughts limits the amount of mutton export from Argentine. Along with these there is a growing movement towards mixed farming.

In point of numbers probably the United States might be considered the meat country of the world. Their population is however increasing very rapidly and their export trade in meat, once the greatest in the world, has rapidly decreased. Home consumption accounts for this. Now they are importers. Next to Great Britain they import more wool and mutton than any country in the world.

The same applies to dairy products, the United States is an importer. South Africa has developed into a sheep country and has the natural advantages necessary for mutton production, but the climate is not the best for producing wool.

The European countries such as France, England, Scotland, Germany, Austria Hungary and Russia in normal times, produce a good supply of mutton and wool. Of course they do not produce enough for home consumption. During the last three years this production has very materially decreased. Their breeding stock has been depleted due to war demands and it is very probable that this stock will be still further drawn upon for food. Coming closer home few of us but are familiar with conditions in Canada. In 1910 we had 2,598,470 head of sheep. In 1914 the number had decreased to 2,058,045, that is a decrease of over half a million in five years. In the year 1910 the Province of New Brunswick had 203,620 sheep; in 1914 this number had decreased to 121,739 sheep, that is a decrease of about 40% in five years. In 1914 Canada imported 5,610,812 pounds of mutton and lamb, and 7,252,119 pounds of wool. In the same year Canada exported 65,167 pounds of mutton and 2,841,184 pounds of wool. In the same year Canada exported about 20,500 head of live lambs and sheep. This is the situation in Canada and it is a very good index to the situation in the United States. To sum it up properly, we have been going backwards

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The Smith Foundry Company, Ltd.,
FREDERICTON, N. B.

for eight or ten years, and have finally arrived at the stage where we import more than we export.

Why New Brunswick Farmers Should Stock Up

One might say that there is an unlimited market for mutton lambs at home and abroad. During the next few years the United States can easily take the entire product of Canada. The same thing applies to Great Britain or France. In the Spring of 1917 wool sold for 60c and 65c per pound in New Brunswick. Next year it won't be any lower and no doubt will reach the 70c mark. Lambs are easily worth $10.00 this fall.

People engaged in the sheep business haven't suffered to the same extent from high priced labor as have other branches of farming. The labor involved in sheep production comes at a time when there is very little other work to be looked after. The lambing, shearing and dipping season covers the big end of the labor involved. Throughout the summer little if any real labor is required. The feed bill is not very large—mixed timothy and clover hay or preferably pure clover hay supplemented with Swede turnips, with a handful of oats is the best winter rations and incidently a cheap one. Hay prices have been low during the last two years and farmers can profitably winter more sheep instead of selling hay. Summing up, one might say that sheep raising offers one of the best investments obtainable for:—

1. Mutton, lamb and wood prices are good.
2. There is very little labor involved in sheep farming.
3. It is a most profitable way of marketing out hay crop.
4. We have in New Brunswick good upland pasture and plenty of water.
5. We have easy access to the best markets in the world, Great Britain and the United States.
6. The investment involved is a small and the turnover is big and quick. The wool crop is marketed in the spring when very little money is coming in to the farmer.

What the Department of Agriculture Has Done and is Doing

Probably one of the greatest curses to the sheep industry has been the dog nuisance. The old dog law has been amended so that it is now up to the sheep breeder of the district to say whether the dog shall be controlled or not. It depenls on the enterprise of the sheep breeder whether the dog shall be controlled or not. It depends on the enterprise of the sheep breeder whether he has dog protection or not. The Live Stock Division of the Department of Agriculture has been acting as an exchange between breeders and purchasers. Breeders who have stock for sale communicate with us, likewise those desirous of purchasing stock, and we have been able to give material assistance to the purchasers re the location of stock and prices.

A great number of people have taken advantage of this, in fact so many that our local supply of flock headers and pure bred ewes is pretty nearly exhausted. If local breeders cannot supply the demand we shall import from the upper Provinces. In this latter case, people deposit a sum of money with the Department of Agriculture, sufficient to cover purchose price and freight charges. The Department furnishes, free of charge, a man to make the selection. To those people who are stocking up with grade ewes we give similar assistance.

In closing I would say "It is a good time to stock up with sheep." Mr. Farmer get busy. If you haven't any sheep you should get some. If you haven't any available stock in your district, write to us. Use the Department. We are here to serve the farmers.

Thomas Hetherington,
Superintendent for Livestock.

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DEALERS—write for prices on Feed, Coarse Grains and Cereals.

THE T. H. TAYLOR CO. LIMITED, - - CHATHAM, Ont. 201

CARE OF EWES AT WEANING TIME

Lambs kept for breeding stock should be weaned when from four to five months of age. The lambs intended for market, on the other hand, should attain marketable weight before they are five months of age and should be weaned at the time they are sold.

Lambs at weaning time should be kept for four or five days at least on the old pasture, as they do not fret as much as in a strange place. The ewes should be removed to another pasture as far away as possible from the lambs. If the feed on this pasture be a little scant, so much the better, for this will help check the milk flow. The ewes and lambs should not be turned in together again, for a large amount of milk from a ewe that has not been suckled for two or three days is liable to cause digestive disturbances in the lamb.

At weaning time the ability of an ewe to produce a good lamb often is ruined because the necessary care is not taken to see that she is dried off properly. A little care at this time will be well repaid. Two or three days after the separation the ewes should be milked out. All of the milk need not be drawn from the udder, but enough should be taken to leave the udder soft and pliable. Mark with colored chalk ewes needing no further attention. In about three days the ewes should be milked out again and the drys marked. Further attention should be given four or five days later to those not dry. No efforts should be spared to maintain every breeding animal in a sound and useful condition.

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THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

THE HORSE

TEAM OF HORSES PULL ON THEIR BITS

Is there any way of breaking horses from pulling on the bits? I have a team of horses that the further they go and the heavier the lead the harder they pull on the bits. They are becoming impossible to drive. Wagon work is the only work I have for them. Is there any bit that will hold them without cutting their mouths?—H. F. C.

Ans.:—First see that there is no irritation from the teeth that causes the horses to set themselves on the bit and pull until they numb their mouths to pain. Sharp teeth that cut the inner surfaces of the mouth are frequent causes of pulling.

The inquirer does not state how the horses carry their heads when pulling, whether on their chests or with their noses stuck out. Probably in either case they manage to get the bit back against their grinders and the driver is set to pull against these instead of the bars of the mouth, where the bit should be. It is true that some horses can pull very hard even by the bars of their mouths, but that is nothing to what they can do when they have succeeded in getting the bit far up in their mouths against their cheeks or grinders.

First try the simplest method that still leaves the horses at liberty to exert full power on a load. Use large, plain, bar bits, the bigger the better, and buckle a noseband immediately above them so that the bit is kept down where it belongs and not allowed to go up or back in the mouth. The correct position for the bit on a pulling horse is about an inch above the tush, not up in the corners of the mouth. As these horses are not runaways or bolters, it is not necessary to buckle the strap very tight to begin with, as this may cause considerable discomfort. If this plan succeeds, get wide straps and keep them soft.

Overchecks are objectionable on a draft team if put on tightly enough for correction, especially on rough ground or for a hard pull. But if used on a separate bit, especially with a noseband, they will keep a horse from hogging the bit by getting his nose down. With very tough-mouthed horses a ring martingale on the outside rein will pull downwards on the bars of the horse's mouth in the contrary direction and give a powerful control beyond the power of any but a very few horses to defeat. If the horses simply go heads in the air and let the bits slip back off the bars of their mouths, a martingale may be all that is needed. It should be only tight enough to draw down a couple of inches lower than the mouth of the horse when in proper condition.

It is essential with any of these rings to remember that pulling and hauling will cause the horses to act with great severity, the thing that the horse has tried to avoid by getting the bit out of position. To handle the reins roughly under such circumstances is to drive a high-strung horse to balk. Many horses have come to depend on a heavy pull on the bit when they are making the greatest strain on the traces.

Never be discouraged with a pair of pullers. Either their teeth are wrong or the bitting is incorrect. Study to bring the horse's head to a correct position when working, which will usually be about the unstrained position in which he stands when not interfered with in his stall. If he throws his head very much out of line up or down there is something wrong.

Always use one bit for the check and another for the reins, whether it is an over or side check, so that the driving bit may remain down on the bars of the mouth. An extra bit with a side check makes some pullers perfectly happy, as they imagine they are still pulling on the line, while they are really pulling at their own cruppers. I have had horses that kept this illusion all the years they lived; they could be guided and stopped with a two-ounce pull.

A puller should never be confounded with a bolter, which gets into a dangerous panic and cannot be controlled because he has no control of himself. Pullers merely need regulation.—L. OGILVY.

COOD WASH FOR SORE SHOULDERS OF FARM HORSES

In selecting a draft horse the shoulders should be given careful attention. A good slope makes the best collar-bed. Straight shoulders with thick withers are most susceptible to injury. If the shoulder is straight, the force of the pull is thrown on the point and not evenly distributed.

A cheap, ill-fitting collar is a poor investment. The best way to secure a good fit is to take the horse to an expert harness maker, where the proper size can be obtained. Or measurements may be taken from which a collar can be made to order. If the horse has been idle through the winter and has taken on surplus flesh allowance should be made for the si e needed when the horse reaches its normal weight. When the collar is in the proper position there should be room to allow the hand to be laid between it and the withers.

Careful fitting of the collar may come to nothing if the hames do not fit properly. The top hame strap, if rightly adjusted, will neither pinch the top of the neck nor be so loose as to allow rubbing. The lower hamestrap should be buckled tightly to insure a snug fit of the hames against the collar. If the tugs are properly adjusted the line of draft will be at right angles to the collar bed and the pull will be evenly distributed over the shoulder. This usually means that the tugs should be fastened at a point one-third of the distance from the point to the top of the shoulder. The traces should always be the same length; if not, there is a side pull on the shoulder.

Then if care is used in hardening the horse to the work, little trouble will result. Frequent stops are of advantage to the shoulder and an occasional lifting of the collar helps. Bathing the shoulder at night with cold water restores circulation and hardens the skin. By cleaning the collar each morning, a smooth surface is brought in contact with the shoulder, and rubbing which might result in a breaking of the skin is avoided.

With the best of care, however, sore shoulders cannot always be avoided. As long as the swelling is well defined and movable, the skin alone has been damaged. This is best treated by carefully washing the surface. Some good shoulder washes are: (1) Alcohol, 1 pint, and the white of two eggs, thoroughly mixed. (2) A solution of silver nitrate, 10 grains to 1 ounce of water. (3) Carbolic acid, one pint in 15 parts of glycerine.

After the surface has been thoroughly cleansed, the wound should be powdered with iodoform mixed in flour or starch. In the case of a wound affecting the deep-lying tissues, the treatment is more involved and the injury much slower in healing. The wound must be kept thoroughly cleaned with an antiseptic and the horn-like substance removed. If the wound must be lanced, the skin should not be divided transversely, but need not be spared longitudinally. The injured spot should be protected by means of a hole cut in a pad, if the horse must be worked.

B. C. ZIMMERMAN.

FITTING HORSE COLLARS

A collar should be fitted to the horse, and not the horse to the collar. The collar that is too large should not be used on a horse in the hope that he will grow large enough so it will eventually fit. A collar that fits well in the spring may not fit at all in the fall.

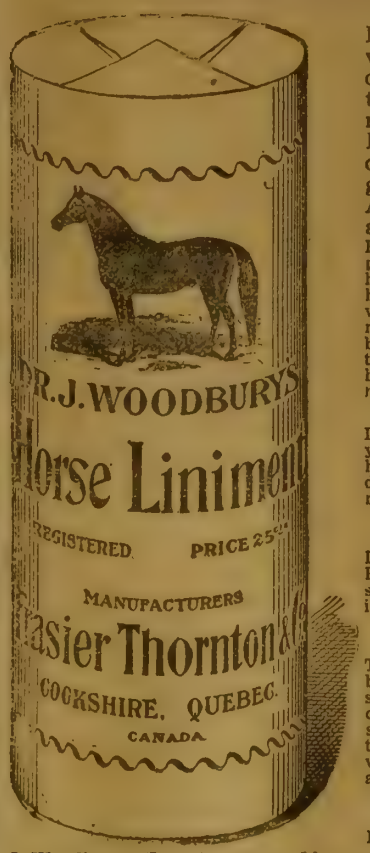
When one is fitting a horse with a collar, the animal should be standing in a natural position on level ground, with his head held at the height maintained while at work. The collar, when buckled, should fit snugly to the side of the neck, and its face should follow closely and be in even contact with the surface of the shoulders from the top of the withers to the region of his throat. At the throat there should be enough room for a man's hand to be inserted inside the collar.

The style of horse collars are created mostly by the use of different kinds of materials in their construction. Such materials as heavy duck, ticking, and leather are used either alone or in various combinations. All-metal collars may also be bought, but are not so much used.

The stuffing used in horse collars is coarse material, such as rye straw, curled hair, and cotton fiber.

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured. Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.

Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.

Yours truly, Clarke Bros.

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Yours truly, C. C. McLean.

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This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.

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Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

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The wonderful chromoil leather in these boots is a big improvement on the best ordinary "Oil-Tan." It is waterproof not only on the surface but all the way through. It does not dry out nor crack from heat, nor stiffen up quickly from frost. It retains through everything the soft suppleness that makes it so comfortable.

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If your dealer cannot supply you with these new Palmer-McLellan Chromoil Tanned Farm Boots, mail us the price and we will ship you a pair postpaid.

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Write for free booklet describing Chromoil Tanned Leather and its merits.

Butter Parchment at Farmer Office

HOW TO MANAGE STALLIONS BETWEEN BREEDING SEASONS TO INSURE THEIR VITALITY

Many stallion owners treat their animals somewhat in the same manner that careless farmers treat their implements, by throwing them aside to rust and waste through lack of exercise or care in regard to future usefulness. The fertility of a stallion depends greatly upon the condition in which he is kept during his off season. It is not at all necessary for a stallion to be fed up to the ton standard, to ensure his vitality as a stock-getter—in fact it is likely to damage him if he is fed to that extent without due regard to exercise. The stallion owner who feeds the horse to secure the admiration and popularity of farmers who own breeding mares is treading on very thin ice in regard to his business. No up-to-date judge or breeder will place any trust in the horse that has only abnormal fat to advertise his qualities. Nor, on the other hand, will the neglected horse that is not overburdener with fat be any better a stock-getter, simply because he has not got the fat, if his off season time has been spent in idleness, isolation and neglect. Just in the same way as the skilled dairy farmer secures success, by reference to his cow's records, so will the successful horse breeder succeed. The main point of the mare owner is to find out the fertility record of the horse and the stallion owner should be prepared to furnish records of his horse that will prove his fertility.

Evils of Small Box Stall

To gain this end must be the chief aim of the stallion owner. Close confinement of animals interferes with their fertility, and confining the stallion to the small dark box stall for 8 or 9 months of the year, is a practice that is proving to be one of the greatest wasters in the horse industry. Stallions that are fed upon a generous ration of highly nutritious food and are not given regular exercise, become more or less sterile. Practical breeders recognize this and seek means to prevent it. Breeding males that have proven themselves of great merit are those that have led the active life, and have been handled by men who fully recognize that natural conditions must, in as far as possible, be given to the domesticated surroundings. The owners of draft stallions in Scotland, who are not catering to the call of exhibitions, work their stallions throughout the year, and these stallions are notoriously sure foal-getters. They not infrequently have records of 95 per cent. of the mares in foal. The modern plan, adopted by the fancy breeder, of keeping the draft stallion in high condition and standing him for service at one barn, thus requiring all mares to come to him, is undoubtedly reducing the fertility of draft stallions.

Keep Stallion in Natural Condition

It is considered a loss to the stallion, as well as to his owner, to keep him in idleness, and most owners train the draft stallion to harness and employ him at work. It will pay any stallion owner to plan some work for the stallion, and in Scotland, if no facility is available on the farm to work the horse, he is let out for carting work, but is always attended to and worked by a capable attendant, hired by the owner. So long as the general conformation is not spoiled by undue strain, a lack of flesh in the fall and early winter when at work is found beneficial.

A study of the conditions found in nature will illustrate the utility of this method. An animal that is maintained in a uniform condition of excessive fatness is not in the best condition for the successful exercise of the breeding function. A rapidly improving condition through regular and judicious work or exercise is in line with the natural condition. In nature it is rare for an animal to remain continuously in a fat condition. The rigors of winter and the exercise necessary in searching for and procuring sufficient food is the ideal condition illustrative of the method for the owner of the domesticated animal to apply. Then, in the spring time, when the rapidly improving condition of the animal in nature is proceeding through a more abundant supply of nutritious food, the animal is in the fittest form for breeding and the natural desire is accelerated. This is the essential condition in which the domesticated animal can also best perform the work of reproduction. It must be remembered that the taking away of nutritious rations alone during the off season is not enough to generate the desired fertility. It must be accompanied by sufficient exercise, comparative with the animal in nature in its search for food when snows lie deep and vegetation almost nil.

Daily exercise must take the place of the lonely box stall, and this can in no way be better done than by judiciously employing the horse at work. Experience has clearly demonstrated that the well bred stallion makes a superior servant at work. He is more intelligent and more willing than any other class of draft animals and, above all other animals bout the frm, is the most easily domesticated.

No farmer or stallion owner can afford to keep a stallion in fit condition with proper exercise and attendance without employing his services in some useful field of labor, and no better method can be adopted that so nearly fulfils the law of nature that finds all animals in perfect condition for breeding. It must be remembered that in getting down to the thin condition through sheer neglect, confined to a small bax stall during winter, is entirely opposite to nature and only makes doubly sure that infertility will follow. The reduction of the high condition must come by regular work or exercise, not by the isolation and neglect that are the surest highroads to the decay of all organisms that make for vitality in live stock.

Nuts and bolts rattle off of new machinery like ripe grain out of the sheaf. Put nuts on with a little paint or red lead. Take a cold chisel and fix all nuts for keeps if they are not to be taken off for adjustment of parts.

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To pay war expenses the Government needs these profits, and will pay you over 5% interest on them. Sir Thomas White, Minister of Finance, says: "A War Savings Certificate in every Canadian home will help to win the war."

For every $21.50 you loan to Canada now, you will receive $25 at the end of three years. War Savings Certificates are issued in denominations of $25, $50 and $100, selling at $21.50, $43 and $86, respectively, and may be purchased at any Bank or Money Order Post Office.

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We trust any Honest Person
Write for Catalogue to-day
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POULTRY.

PRESERVE EGGS NOW

The indications are that eggs will be dear next winter, dearer than they were last winter, so those wro want eggs had better put some down now while they are comparatively cheap. Do not use oats, bran, salt or such mediums; moreover, the patent preservatives usually advertised as being so simple and effective had better be adopted with caution. Better use something that has been tried and found satisfactory.

According to Dr. Frank T. Shutt, Dominion Chemist, lime water is one o fthe best preservatives and we quote the following from his Exhibition Circular No. 42.

The method of preparation is simply to slake one pound good quick lime with a small quantity of water and then stir the milk of lime so formed into 5 gallons of water. After the mixture has been well stirred for a few hours it is allowed to settle. The supernatant liquid, which is now "saturated" limewater, is drawn off and poured over the eggs, previously placed in a crock or water-tight barrel.

As exposure to the air tends to precipitate the lime (as carbonate), and thus to weaken the solution, the vessel containing the eggs should be kept covered. The air may be excluded by a covering of sweet oil, or by sacking upon which a paste of lime is spread. If, after a time there is any noticeable precipitation of the lime, the lime-water should be drawn or siphoned off and replaced with a further quantity newly prepared.

General Precautions Necessary to Take

It is essential that attention be paid to the following points:—

1. That perfectly fresh eggs only be used.
2. That the eggs should throughout the whole period of preservation be completely immersed.

Although not necessary to the preservation of the eggs in a sound condition a temperature of 40° F. to 45° F. will not doubt materially assist towards retaining good flavour or rather in arresting that "stale" flavour so often characteristic of packed eggs.

Respecting the addition of salt, it must be stated that our experiments—conducted now throughout fifteen seasons—do not show any benefit to be derived therefrom; indeed, salt frequently imparts a limey flavour to the egg, probably by inducing an interchange of the fluids within and without the egg. Our advice is, do not add any salt to the limewater.

POULTRY FACTS WORTH READING

Hatching for pullets for winter laying is over. Rearing will be the main interest from now on. It will be good practice to bring off an occasional hatch through the summer and fall to supply friers for the home table, but no one should think of saving the pullets and carrying them over winter. They will never pay for their keep.

Have the hatchings been satisfactory? If so, beware of carelessness. There is still a fine chance for failure. If the May hatchings have to be drawn on to make up the required number of pullets for winter laying, it will be well to remember that such stock is handicapped by lateness and that extra care will be needed to enable them to overcome that handicap.

Free Range Not Enough

No matter how ample and rich the range may be, all pullets for winter laying, the late hatched in particular, will need extra feeding. They should have at least two feedings of grain daily and they should have access to a dry mash that carries some meat or fish scrap. The unprecedented high price of all grain feeds and grain by-products is forcing all of us to do some close figuring. We simply must practice every possible economy in order to make poultry keeping profitable, but as the requirements of growing pullets do not take world wars into consideration we should prod ourselves frequently lest we practice economy to the detriment of the growing stock and so defeat in the end the very object of all our poultry work-profit. Pullets for winter laying must be mature in body and organs by cold weather, and any economy or neglect that postpones maturity will make the keeping of such stock unprofitable.

High Prices Next Winter

The prevailing opinion is that eggs will command high prices next fall and winter. Some are predicting a price of one dollar per dozen next Christmas, and this may come to pass. Whatever may turn out to be the upper limit, the average price will be considerably higher than the average of last season.

The high prices for eggs in PROSPECT is the justification for extra care and the feeding of extra high-priced feeds. If the product commands the right price, the producer should not worry over an apparent and imaginary high cost of production. If eggs brought ten dollars a dozen, poultry keepers could afford to pay one-half a cent a GRAIN for corn.

Keep No Drones

Poultry keepers should learn wisdom of the bees—they do not winter drones. The precious honey and pollen must be reserved for the spring workers. The egg-laying contests have proved that the best flocks have unprofitable individuals, what dairymen would call boarders. City and village poultry keepers have noted this fact. Having to buy all feeds, they are compelled to make their layers pay their way, and if any individuals do not pay for their keep such unprofitable fowls are prepared for the home table or for market. Fruit growers and farmers have been very slow to learn the lessons illustated by these laying contests. The fowls received such feeds as were produced on the place, and the women used and sold such eggs as those fowls chose to lay. These two operations defined farm poultry keeping. But farm people generally are beginning to keep watch over all the feeding operations on the place. They had learned to figure the value of feeds in the terms of horse-power, of butter and milk, of bacon. At last they have come to figure the value of the feed given to the ppultry on the place. Maybe the value of grains fed to the chickens is estimated, but the point is, fruit, growers and farmers are coming to understand why closer attention should be given to the production of all individual animals and fowls kept on the place. The loafers, the boarders, the drones, must go. The high cost of feeds is their doom.

A Money-Making Pullet

The Kentucky Experiment Station reports that one pullet in the egg-laying contest held at that station has laid 95 eggs in 95 consecutive days. This is beileved to be the world record; certainly the official record. Of course this is a remarkable pullet—one in a million. But you may have just such a pullet in your own flock. Have you any way of finding out? Perhaps not. But there is a way—the use of the trap nest, a nest with some kind of trigger or trap that confines the fowl until removed by an attendant. The leg band being numbered, the attendant can make the proper record on the card prepared for the purpose. In this way non-producers are detected and removed from the laying house. In addition to the prompt reduction of unprofitable

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Mr. J. G. Hamilton, Schoolmaster, Cornwall, Ont., writes: "I have great pleasure in recommending Milburn's Laxa-Liver Pills. I am a teacher, and all the time I do not get the requisite amount of exercise I need, so I was troubled with sour stomach, yellow eyes, and specks floating before my eyes. I purchased 5 vials of your pills, and have just finished them.

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expense, the trap nest becomes the basis of intelligent breeding. It finds the profitable laying pullets, and the profitable laying pullets become the profitable breeding hens the following year.

It is only fair to say that the use of the trap nests involves frequent visits to the hen house, and hence there is some question as to their general use on the farm. The ideal, however, is there, and the way to it is now open. Every poultry keeper must figure out his own problems. One thing is certain, the poultry keeper who studies the report of any one of the national egg-laying contests will never be the same. He may not introduce trap nests, but he will manage in some way to improve his flock and increase the profits. And this is one of the results of finding out that there is a better way of doing things.

CULL THE FLOCK OF POULTRY NOW TO MAKE PROFIT

The urgent need of conservation demands that all poultry not paying its way in either eggs or growth be killed for eating.

The present high prices of feed also make the keeping of such classes of poultry decidedly unprofitable as well as unpatriotic. Therefore, for your own good and for the good of the country, kill them.

There are in every poultry yard birds that have outlived their usefulness and others that will never pay their way; these might profitably be finished and marketed, not necessarily all at once, but as soon as practicable, taking into account the market, etc.

In these classes might be mentioned, in the order in which they should be disposed of, the following:

1. MALE BIRDS. The breeding season being over, all males should be fleshed and killed. It will cost $2.00 or over to keep each male until next breeding season, therefore, get rid of them; it will also be better for the layers, the eggs and the growing chicks.

2. TURKEYS AND WATERFOWL. Toms and turkey hens, geese and ducks not absolutely needed for next year's breeding should be disposed of.

3. HENS. All hens of the heavier classes that are two eyars old and over might better be marketed now. In even the light classes many of this age ought to go. Others that are laying but that are not worth keeping for another year should be kept until the egg yield does not pay for the feed. Better still keep culling out those that show signs of early moulting as you go along.

The best of the one and two-year-olds of the lightest breeds might pay to keep all summer, but only the year-olds should be kept over winter, and even these will stand culling fairly closely.

4. BROILERS. If broilers are early it pays best to sell the cockerels when two or three pounds in weight rather than to keep till heavier. This is especially so when the sexes cannot be separated and where the runs are small the pullets will soon require all the room and green feed available.

Light breed cockerels should be sold early; it selodm pays to feed them to maturity.

5. ROASTERS. Don't leave the marketing of all roasters till late in the fall.

KEEP THE PLOUGH GOING AND RESTORE THE WASTED LAND

Keep the plowing going this fall whenever possible. It will be useful in many ways. A light plowing, where the land is not seeded, is a fine thing to check the growth of many weeds and to keep others from going to seed. Later in the fall it should be plowed for spring cropping.

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All land intended for spring cereals or root crops should be plowed in the autumn. In the spring the rush is on and nothing that can speed the work of seeding should be left over until then. In almost every case the early sown grain leads in yield and quality of crop.

In order to grow good crops an immense quantity of moisture is required. The normal rainfall is not nearly equal to the requirements of any soil. Fall plowing conserves moisture and greatly assists in securing the needed supply. The surface of the land, being made rough by the action of the plow, is capable of holding larger quantities of rainfall and snow, and as the soil immediately below the surface, being broken up into fine particles, is able to absorb larger quantities of this water than land which is smooth and hard, a much greater supply is therefore stored up for the use of plants. If this land is then cultivated and sown with grain at the first opportunity in the spring, which may usually be done where the land is fall plowed, the greatest conservation possible is made of this moisture; as well as of all moisture below it and which is being constantly brought to the surface by the capillary action going on in the soil.

Not only from the standpoint of production of crops in autumn plowing the proper thing to do, but also from that of economy of labor. At this time of the year the land is usually in ideal condition for plowing. The cool weather is right for the teams to accomplish a heavy day's work and the rains which usually occur put the land into excellent condition for this work, consequently a much greater area can be plowed in the same time than in the spring, when the teams are soft, the ground hard and the weather hot, which is likely to be the case unless the plowing is done very early—before the spring seeding is commenced.

There are acres more in sod than was the case four years ago, with no corresponding increase in live stock. Much of this is old meadow or pasture with little feed on it, and by some means should be brought into profitable production. Hay is cheap and not required in larger quantities. The great need is for cereals. In this matter, however, as in all other farm practices, one should use good judg[illegible] properly managed. There is nothing to be gained, but much to be lost, in multiplying acres and not increasing the production.

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

THE MONTH OF RIPENESS

By William Campbell

Thou languid August noon,
When all the slopes are sunny;
When with jocund, dreamy tune,
The bees are in the honey
When with purple flowers,
A-baming in the sun,
The drowsy hours
Thread, one by one,
The golden pleasaunces.

Then is heart's musing time,
Then, of all the seasons,
Old Earth for inward rhyme,
Is full of golden reasons;——
Then the ripening gourd,
The sun-kissed garden wall,
The purpling hoard,
The flocks that call
Adown the distances.

Forgo the saddening tear,
Thou Month without alloy;
To younger seasons of the year
Resign the flag of joy;
But thou, be what thou art,
Full brooding to the brim
Of dreams apart
And purlieus dim
Of leafy silences.

THE PRESERVATION OF FOOD

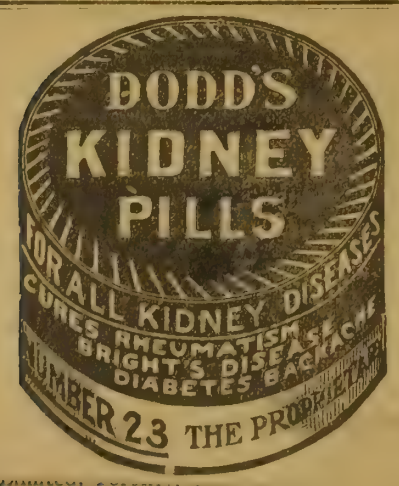
The following has been taken from a recent bulletin (252) issued by the Ontario Department of Agriculture, Toronto, and compiled by Miss Ethel Chapman. Send for it. It is excellent.

Home Canning: Drying Fruits.

The necessity of saving every pound of produce grown this year, will, no doubt, revive the practice of drying fruits on many farms. While it is difficult to give any fast rules to follow with the equipment used in the average home, where the fruit is dried mostly on racks over the stove or in the oven with a slow fire, the following methods used in kiln evaporators give some idea of the temperature and time required for drying.

In the kiln evaporator, most operators maintain a temperature of 155 to 165 degrees for the first five or six hours. If the temperature is raised higher than this the cellular structure of the fruit is destroyed, and a great deal of sugar lost by bleeding. Unless the temperature is kept up to this level, the surfaces of the fruit become slimy and further drying is retarded. By these signs, the housekeeper can regulate the temperature even where her equipment does not permit the use of a thermometer. After the first five or six hours some operators allow the tempeature to go down to 130 or 135 degrees, open the ventilators widely, and continue the drying by using large volumes of air at lower temperature for ten to twelve hours, after which the temperature is bought up to 175-180 degrees, and kept there until the drying is completed. Those who use this method claim that it is economical of fuel, and that is makes a more springy, "lively" product.

In drying prunes, and berries, cherries, currants, etc., the temperature at the outset should not be allowed to rise above 125 or 130 degrees until the fruits have lost a considerable part of their water, as otherwise there will be expansion and bursting with consequent dripping. If ample air can be obtained, or if a good draught can be had through the kitchen where the fruit is being dried, a higher temperature, from 185 to 180 degrees may be employed in the last half of the drying period. If there is not a free circulation of air, however, the temperature must be kept below this point or the fruit will be partially cooked or dried outside while the inside is still moist.



To Determine When Apples Are Sufficiently Dried

Apples should be removed from the drying trays while they still contain slightly more moisture than the finished product is to have. One can learn only by experience how to judge accurately when the fruit is ready to remove, but some general tests may be used. If the fruit is sufficiently dry to take from the dryer, it will be impossible to press water out of the freshly-cut ends of the pieces, but they will be sufficiently elastic not to break when the piece is rolled into a cylinder. When a mass of slices are pressed firmly into a ball in the hand, they should separate at once when released. When the fruit has reached this condition it should be spread out on the floor or on a table in a dry room, to a depth of a foot or more, and stirred thoroughly once a day.

Iome idea as to whether apples have been sufficiently dried may be gained by weighing them before and after drying. An average yield of dry fruit from Baldwin, Spitzenburg, or Ben Davis will be 13 to 13½ pounds from 100 pounds of fresh fruit. Jonathan and Greenings will yield from 13½ to 14 pounds per hundred of fresh fruit, while varieties like Russet and Grimes Golden will give from 14½ to 16 pounds. Windfalls and immature fruits will make a slightly lighter product as they must have the water content reduced to a lower percentage in order to prevent spoiling.

Sun-Dried Fruits

Rules which apply to such fruits as cherries, plums, peaches, quinces, apples, pears, apricots, are as follows:—

All fruits must be perfect and ripe. Cherries should be stoned before drying. Plums are wiped clean and stoned. Firm, ripe peaches are better if dried with the skins on. They must be brushed with a small vegetable brush or wiped with coarse towels, cut into halves and the stones removed. Apricots are prepared the same as peaches, but apples, pears and quinces are pared and cut into quarters and eighths, depending on the size of the fruit.

All fruits are dried in the same way: Spread them in a single layer on a board; have small posts at each corner of the board; cover it with a piece of mosquito netting, and set the board in hte hot sun. When the sun is down bring the fruit indoors. Next morning turn the fruit over, and set again in the hot sun. If there should be rain or damp weather, the drying will have to be finished in a very moderate oven. If dried in the oven, care must be taken not to scorch the fruit.

The fruit must be perfectly dry before putting it into flour bags or sugar bags. When filled, tie the bags and hang them in a cold, dry place.

For sun-drying, about three hot, sunny days will be required, and the fruit must be turned quite often.

BEWARE OF FLIES

Flies should be kept out of our houses, killed if they enter them, and prevented from hatching their eggs in stables, manure heaps, swill pails, and other filthy places. They are born in filth; they feed on filth; they walk on filth; and then, with filth sticking to their feet, legs, and bodies, they feed and walk on the food which has been prepared for human beings to eat. It would disgust us, wouldn't it, if we saw a fly feeding on the filth of the street, the stable, the garbage can, or on something even worse, and then saw the same fly go through the open door or window of our dinging-room and wipe its feet n the sugar, tangle its legs in the butter, or take a bath in the milk? If we should watch every fly that comes into the house, we would see that most of them had come from such filth to the food on our table.

Flies are Dangerous

Bad as filth is, it is not the worst thing that flies carry about. They swarm about open sewers, drains, and outhouses which receive millions of disease germs which have passed through the bodies of sick people. Flies in this way pick up and carry on their bodies, heads and legs (which are covered with fine hairs—just suited for catching and holding this sort of thing) the germs of typhoid fever, summer diarrhoea of children, tuberculosis, and several other diseases Dr. L. O. Howard, Chief Entomologist of the United States Department of Agriculture, calls the common house fly the Typhoid Fly, because so many cases of typhoid fever have been caused by its carrying the germs from one sick person to another. These germs are so small that you cannot see them without a microscope, but the fly that is eating from the same plate with you may be carrying a million of them.

Flies kill more people than wild beasts and poisonous snakes. Many of these beasts and snakes never get a chance to kill any human being; but any one of the millions of flies found in most of our towns and cities has a chance, if it comes into a house carrying typhoid germs, of killing a whole family.

Flies Breed Quickly

Most house flies in cities are hatched from eggs which have been laid in horse manure. Some breed in other forms of filth, such as garbage cans, heaps of refuse in back yards, etc. The fly lays 120 or more eggs at a time. These, if they are not distributed, become maggots in about 12 house. In from five to eight days more, the maggots enter the pupa state, as caterpillars do, and after from five to seven days out of the earth or manure in which they have buried themselves in the form of flies, ready in a few days to become the fathers and mothers of large families. They breed so rapidly that in one summer the children and grandchildren of one pair of flies may amount to thousands of millions. And remember that the germs they carry multiply much faster than the flies.

To prevent flies from breeding, screen the stables if possible. Remove the manure at least twice a week. If flies begin to breed in stored manure they may be killed by thoroughly spraying it with kerosene or Paris Green, and then pouring on enough water to wash the oil or poison well in. The objection to the use of kerosene is that it ruins the manure for fertilizing purposes.

It is well to abolish old-fashioned outhouses where possible. Where this cannot be done a liberal amount of lime should be used, applied in small amounts daily. Chloride of lime is better than slaked lime, but slaked lime is better than none at all. Garbage barrels should be thoroughly cleaned after emptying, and the contents should be sprinkled with crude oil, lime, or kerosene oil. And finally keep flies out of the house by screening the doors and windows.

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Herewith is a list of bulletins which, in most cases, may be obtained free by writing to the addresses given. These bulletins are most helpful to club members having papers or addresses to prepare, and all organizations dealing with any of the subjects mentioned, should include copies in their libraries:

Address: United States Department of Agriculture,
Division of Publications,
Jos. A. Arnold, Editor and Chief,
Washington, D. C.

34. Meats; Composition and Cooking.
121. Beans, Peas, etc., as Food.
203. Canned Fruits, Preserves and Jellies.
249. Cereal Breakfast Foods.
255. Home Vegetable Garden.
256. Preparation of Vegetables for the Table.
270. Conveniences for the Farm Home.
291. Evaporation of Apples.
293. Use of Fruit as Food.
295. Potatoes and Other Root Crops as Food.
298. Food Value of Corn and Corn Products.
359. Canning Vegetables in the Home.
363. Use of Milk as Food.
375. Care of Food in the Home.
391. Economical Use of Meat in the Home.
413. Care of Milk and Its Use in the Home.
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BARBERS' itch is in reality a form of eczema. The delicate skin becomes irritated from shaving, a little infection gets in, and soon burning, stinging eczema is set up.

Fortunately, there is cure for Barbers' Itch and Eczema in the use of Dr. Chase's Ointment, and once you have made the acquaintance of this soothing, healing ointment, you will always keep it on hand to apply after shaving. Not every time, but whenever there is roughness or irritation of the skin.

Mr. Chas. A. Duxbury, Meaford, Ont., states:—"While out in the Northwest I caught barbers' itch, and anyone who has had it will admit that it is not at all pleasant. It began on my neck below the chin, and spread until I became alarmed. It itched so bad that I had to scratch it, and that only made it worse.

"A friend of mine told me to use Dr. Chase's Ointment, and I did so. The application of this ointment gave prompt relief to the itching, and it was not many weeks until I was entirely freed of this annoying ailment."

Some of the ingredients of Dr. Chase's Ointment are very expensive, and for this reason imitations and substitutes are offered because they afford greater profits to the dealer. They will only disappoint you. The genuine Dr. A. W. Chase's Ointment will positively cure.

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CLOTHES FOR THE GROWING CHILD

Very much of the comfort of a child depends upon his having the right kind of clothing. This is especially true in summer. One hot day a mother came into an infant-welfare station in a large city, bringing a screaming baby who would not be pacified. The trained and sympathetic eye of the nurse in charge saw that the little feet were covered with knitted woolen socks. She asked the mother to take them off. Immediately the screams ceased and the baby stretched his naked feet in delight at being relieved of the intolerable irritation.

During the hot months children should wear just as little clothing as possible. Babies require only a diaper and one other garment, while runabout babies and children up to five will be amply clothed in waist and drawers, with one other garment, preferably a cotton slip, apron, or rompers, or one of the many similar garments illustrated in the pattern books.

The one-piece dress is a great boon to busy mothers, being easy to make and to wash and iron. If the kimona sleeve is used, the dress will be cooler, but in some garments the set-in sleeve is less clumsy and wears better. Rompers, loose at the knee and low-necked and short-sleeved, may be used for little girls and boys alike. Denim overalls are rather cumbersome for the hottest weather, but are adapted to cool days.

Starched, frilled, and fussy garments are all alike unsuitable for young children, whose clothing should be such as will make them perfectly comfortable and permit the freest play. No child should have to think of his garments during the play hours; he should of course be subject to reasonable restrictions upon wilful or mischievous soiling or destruction of his clothing.

Cotton is the best material for outside garments, since a child of this age should have no clothes that can not be washed. Mothers disagree as to the comparative merits of white clothing and colored. White garments may be boiled, and thus the amount of rubbing necessary to get them clean is very greatly lessened. On the other hand, white dresses are soiled almost as soon as the child begins to play out of doors. It must be remembered that while white or light colors show the soil sooner, there may be just as much actual dirt on the darker ones. It must also be remembered that light colors like blue, green, lavendar, or pink are almost certain to fade unless they are washed with special care. Striped and check ginghams fade less than plain materials, but often shrink badly in washing. Such materials should be shrunk before being made up. Seersucker and cotton crepe materials of many kinds have the great advantage of needing no ironing. These rough materials are not very cool, and if used for summer wear should have short sleeves and round neck to avoid chafing of the skin of the arms and neck. Percale, galatea, madras, and the better grades of gingham or dress linen are all good materials for children's clothes. For hot weather almost any of the thin materials may be used.

Corn-Meal-and-Wheat Bread

1½ cups milk, water, or a mixture of the two; ½ cake compressed yeast, or 1¼ cups milk, water or a mixture of the two; ¼ cup liquid yeast; 1½ teaspoons salt; 1 tablespoon sugar; Butter (if used), 1 tablespoon; 1 cup corn meal; 2 cups wheat flour.

Method: Pour 1¼ cupfuls of the water over the corn meal, salt, sugar, and fat (if used), and heat the mixture gradually to the boiling point or nearly to it and cook 20 minutes. This cooking can best be done in a double boiler. The water is sufficient only to soften the meal a little. Allow the meal to cool to about the temperature of the room and add the yeast, mixed with the rest of the water (¼ cupful), or the ¼ cupful of liquid yeast. Mold thoroughly, let rise until it doubles its bulk, make into a loaf, place in a pan of standard size, allow to rise until it nearly fills the pan, and bake 45 to 50 minutes.

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THE RELATION OF MENTAL AND PHYSICAL WORK

One of the effects of physical work is the lowering of mental functions. One of the results of mental exertion is physical exhausiton. There are not, as has formerly been supposed, two kinds of energy, mental and physical. The body produces one kind of energy only. If we use up that energy doing physical labor, we unfit ourselves to do mental labor. If we sit down to read or study after a day of hard physical exertion, we find ourselves drowsy and our mind slow and dull. This is the reason the man who works hard physically has little or no ambition to study at the end of the day. If we undertake physical labor when we are mentally exhausted, we tire quickly.

If we have mental work to do, we should not take it up when we are exhausted from physical work or violent exercise. Our mind is at its best after a good sleep or when the body is rested and fresh. Violent exercise does not freshen the tired mind and is not the proper recreation for the mental worker. Exercise, no matter of what kind, uses up energy. Light exercise is beneficial after exhausting mental labor because it permits the parts most exhausted to rest while the parts least exhausted are being used and it stimulates respiration and the pulse, so that the process of upbuilding goes on more rapidly.—Alfred Westfall, Colorado Agricultural College.

CHEMICALS IN HOME SHOULD BE SAFEGUARDED

One cannot use too much care or caution in handling and storing poisons and chemicals in the home. The writer's attention has just been called to a recent case in which a lady caught up a bottle of what she supposed was a face lotion, poured some into her hand and rubbed it on her face. It was not face lotion, but carbolic acid. Luckily, none of the acid got in her eyes, but her face and hands were badly burned. The writer has known of several similar cases.

SUSSEX LITTLE GIANT THRESHERS

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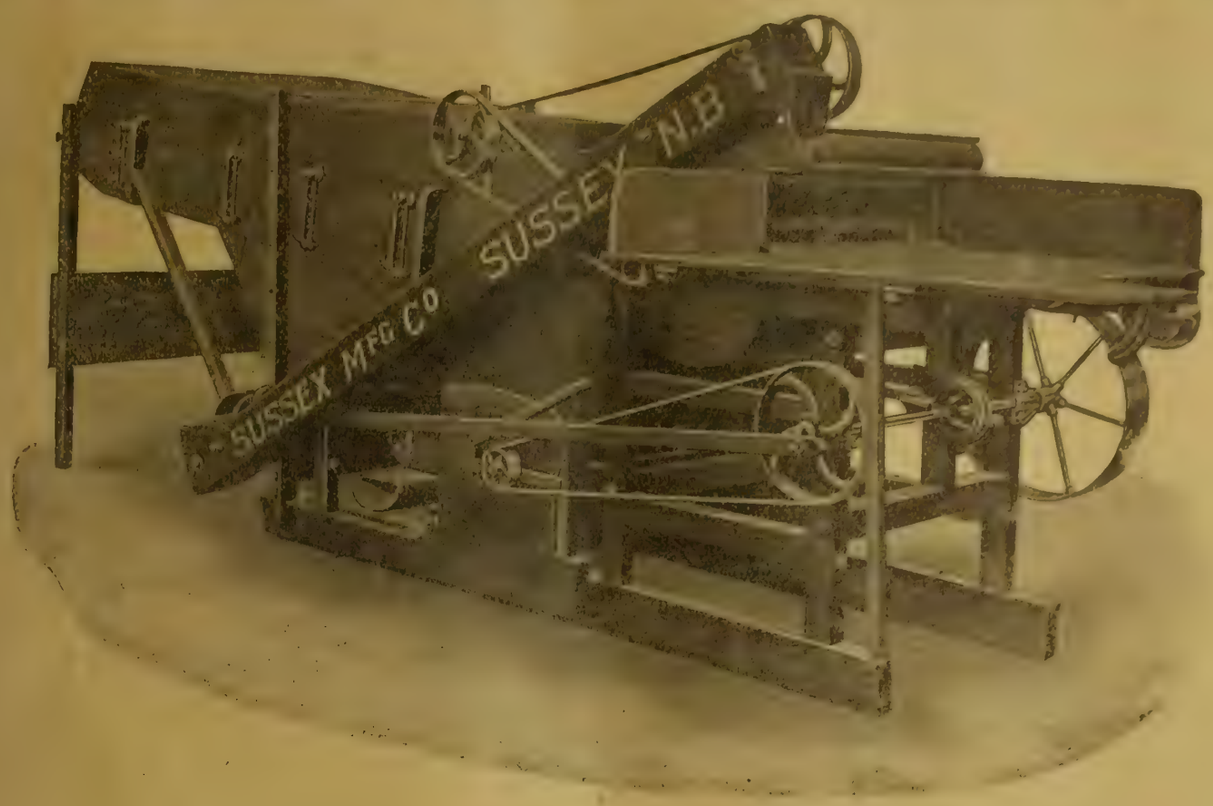

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Grain in the head is not grain in the sack. Close separation is possible only with the proper machine. Sussex Little Giant Threshers have played a part in every harvest for two generations and they will be doing their "bit" on thousands of farms this season. Made in four sizes. Supplied with or without any one or all the labor saving attachments. Every machine supplied with main drive belt and full equipment. Write us to-day. **It will pay you.**

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as when a barber applied carbolic acid instead of bay rum to a customer's face; and when another person took a mouthful of ammonia water instead of tooth wash. All of these accidents, and most of those of like character, resulted from haste, and from carelessness in storing, labeling or handling dangerous substances.

Many plans have been suggested for avoiding mistakes of this kind, such as having containers of special form —three-cornered, corrugated, and screw-top bottles; pins thrust through cork; tiny sleighbells tied to the bottle; and many similar devices. Every person in a household should either fully understand what chemicals are kept in the house, where they are kept, and how they should be used, or should not be able to get at such chemicals at all.

Have every bottle of medicine, and every dangerous chemical, no matter how often or much it is used, in a distinctive substantial container with a proper and permanent label. Make it impossible for children to get at or into the medicine closet. Leave nothing about by which children can possibly get poisoned or injured. Never drink or take ANYTHING in the dark! Never guess at the character of a substance! Find out what it is before you use it, or let it alone. Never use tablets or capsules left lying about loose without proper container and label. Look twice at everything you use from a bottle or medicine box. Use your nose, and your eyes, and not your tongue.—C. E. Vail.

REAL FOOD VALUE IN SALADS

Some people think that salads are an extravagance, time killers, and generl nuisances. However, if the food value of salads is properly appreciated, their use will not be confined to company dinners and Ladies' Aid meetings.

In the first place, any salad dressing contains a considerable amount of fat. Usually, there is an accompaniment of herbs, as lettuce or water cress, that furnish valuable mineral constituents, as well as giving bulk.

For the materials for the main part of the dish, there are many to choose from. If the meal has been heavy, fruits, furnishing water and minerals, might well be chosen. If the rest of the meal is light, the more nutritious animal or vegetable foods may be used, e.g., meats, shell fish, eggs, nuts, cheese, or vegetables, either raw or cooked.

A salad is a many-sided dish, in that it usually includes some of all the food principles. There is contrast in texture, flavor, and color. The appearance of a salad may be a decided stimulant to the appetite.

Also, salads are just as valuable for the man doing heavy work, as they are for his wife, and they will not make him into a monocled, wrist-watched mollycoddle. Try them and see.—Magdalene Hahn, Colorado Agricultural College.

It used to be that girls were taught housekeeping and that was considered enough. Today, throughout the land, people are waking up to the tremendous importance of studying homemaking as well. It it not an idle sentiment, but a fact, that one's personality, as well as his daily happiness, is molded to a large extent by his environments. And it follows that in homes the members are responsible for this environment as it is.

True, that a home without love would be a poor imitation of a home, and no amount of harmony in color schemes will atone for lack of harmony in family life. But it is also true that a room by its mere furnishings and the arrangement of them can do much to insure content or discontent; to make the inmates cheerful or discouraged, optimistic or depressed. And that is why a woman's duty as a homemaker does not end in giving her family bodily comforts, nor yet even in an abundance of love.

BURDOCK BLOOD BITTERS WILL MAKE YOU EAT.

The sufferer from dyspepsia and indigestion who has to pick and choose his food, is the most miserable of all mankind.

Even the little he does eat causes such torture, and is digested so imperfectly that it does him little good.

What dyspeptics need is not artificial digestion but something that will put their stomach right so it will manufacture its own digestive ferments.

Burdock Blood Bitters restores the stomach to a normal, healthy condition so that food no longer distresses, but is thoroughly digested and assimilated.

Miss Ella McDonald, Charlottetown, P.E.I., writes: "I have used Burdock Blood Bitters, and find that few medicines can give such relief in dyspepsia and stomach troubles. I was troubled for three years with dyspepsia and could not get anything to do me any good until I took B.B.B. I took four bottles, and I can honestly say I am now cured, and can eat anything without it hurting me."

B.B.B. is manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

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Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

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Barry P. Hill, Great Village, N. S.
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F. W. C. Nase, Nerepis, N S.
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Ayrshire Cattle

C. A. Archibald, Truro N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Jersey Bull Calf

We have for sale a pure bred Jersey Bull Calf, 8 months old, out of Grandiflora's Katnleen (imported), whose dam was by the noted bull, Flying Fox's Victor and sired by a son of Foxhall St. John O'Dreamwold, whose dam gave over 10,000 lbs. milk in a year.

Price $25.00

ORCHARD HILL FARM,
BROWN'S FLATS, N. B.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Single Comb White Leghorns

A few choice exhibition Cockerels, ready for fall and winter fairs, for sale. Write for prices.

ERNEST CRAZE,
"Rosewarne Poultry Farm,"
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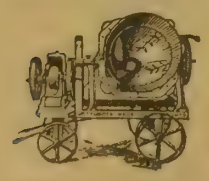
60 Acre Farm $1200
With 2 Acres Corn, Acre Potatoes

Hay, 3 cows, young horse, flock hens, buggy, harness, cream separator, all included by owner who wants to make immediate move to a larger farm, 6-room house with telephone. Two barns, silo, spring water. Only one mile to village. 50 apple and pear trees. 300 sugar maples. Estimated 400 cords birch and maple and 20,000 ft. hemlock. $1200 takes everything. Easy terms arranged. For travelling instructions see page 8 of Strout's Summer Catalogue of 400 bargains in a dozen states. Write today for your free copy.—E. A. STROUT FARM AGENCY, Dept. 2612, 294 Washington St., Boston, Mass.

Concrete Machinery for Farm Use
(MADE IN CANADA)



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Try an Ad in the FARMER

LABOR DAY EXCURSION TO THE EXPERIMENTAL FARM, FREDERICTON

At the last annual meeting of the Farmers' and Dairymen's Association a resolution was unanimously carried that the Association should have an excursion to the Experimental Farm, Fredericton, during the present summer.

As the season has been very late, the officers felt that it would not be satisfactory to the member or their visitors to visit the farm before the crops were large enough for inspection, nor did they think the date should come during the haying season. The date has therefore been fixed for LABOR DAY, MONDAY, SEPT. 3rd.

An interesting programme will be provided, including short addresses from J. H. Grisdale, Director Experimental Farms; Hon. J. F. Tweeddale, N. B. Minister of Agriculture, and other prominent agriculturists to be later announced. Demonstrations in Spraying, Potato Digging, etc., with talks on diseases of plants and other matters, will be given by G. C. Cunningham, Dominion Plant Pathologist. Live Stock demonstrations by Thomas Hetherington, Provincial Live Stock Superintendent, and an opportunity will be given to inspect all departments of the farm, machinery, etc.

It will be time and money well spent for farmers who are interested in potato growing to visit the Experimental Farm, and carefully note the experiments that are being there conducted this season by Prof. Cunningham. It will mean that they will pay more attention to the seed they use better care of the growing crops, and more money in return on their labors.

Lunch will be provided from eleven to one o'clock.

If Labor Day Excursion Return Tickets cannot be bought at single fare, buy a single first class ticket for Fredericton and secure a Standard Certificate.

On arrival at the Farm, excursionists will register their name and address with the Secretary and get their Standard Certificates signed when they will be given a ticket admitting them to the Lunch Room.

Go and take your friends.

Ladies are especially invited.

IMPROVISED SHEDS FOR TOOLS

We used to leave our manure spreader out in the open, simply because we used it often and had no room in the main barn for it. Now, it has a cozy little shed all by itself, giving it full protection from the weather and still making it readily accessible.

A few poles from the woods, a few posts, some boards that were scattered about the premises and rotting to pieces, some discarded tin roofing from another building, and a few hours' time, were all that were required. The material had been on hand for years, yet we had never thought to use it.

Recently we completed a similar shed, improvised and cheap, but mighty serviceable. In it we have the binder, hayloader and a lot of smaller tools. Built against the wagon shed, we had one side of the shed already constructed, while for the other side we used three idle hog coops. Carefully arranged bundles of fodder inclose the ends. The top was made from old tin roofing. It cost very little and is saving us a lot.—P. C. Grose.

CARE OF MACHINERY

Failure to properly lubricate the working parts of the various machines used in farm work is the source of much loss to farmers. Under such conditions there is undue wear and tear and an early trip to the junk heap. One man neglected to fill a grease cup on his tractor and he had to pay a repair bill of $125 as a consequence. Just now when the mower, the binder, the hay loader and other tools that have many bearings and that run rapidly are in use one cannot be too careful about proper oiling. There isn't a doubt but that the life of a machine can be lengthened many years by proper lubrication.

A DOUBLE SERVICE

War Certificates Help You and Help the Country

By saving twenty-one dollars and fifty cents you can contribute directly to victory. War Savings Certificates are on sale at your nearest bank or money order post office. They are issued in three amounts, for three year periods and bear interest at the rate of over 5 per cent. Twenty-one dollars and fifty cents will buy you a $25 certificate. You can buy a $50 one for $43 and a $100 for $86. The country needs your money to finance the war. It is spending nearly $2,000,000 a day to maintain its divisions on the firing line and keep up the proud record of the Dominion. Every dollar that can be spared is required to carry that burden. By lending your money to the nation you will place it where it can be used for national purposes and you will help yourself as well as help the man in the firing line. The certificates are registered at Ottawa. They cannot be lost. The return is good, the security unquestioned. Invest your dollars and help to win the war.

WASTE NO FAT—SUGGESTIONS FOR ITS UTILIZATION

At this time when all kinds of fats cost so much, it behooves the thrifty housewife to utilize every bit that comes into the kitchen.

The fat from mutton or lamb may be used in maying soap, or in making tallow that is good for chapped hands.

Goose grease is an old-time remedy for sore throats.

Chicken-fat, rendered, makes an excellent cooking fat. It is especially good for biscuits, cornbread, muffins, or spice cakes.

Beef fat or suet, is much cheaper than lard and can in most cases, be substituted for it.

Any fat from pork can be rendered and used in cooking. When trimming meat at home, save all fat and render it. If the meat is trimmed at the market, insist on having the trimmings delivered with the meat.

The unrendered rind that is cut from meat makes an excellent grease for griddles, skillets, or other pans. Whn cooking bacon, pour off the excess fat and save it. It is very good for browning potatoes or parsnips.

The cracklings that remain when fat is rendered may be used in soap, corn breads, spice cake or for chicken feed.

Any butter that is not fresh may be worked over with cold water and greatly improved.

Rancid olive oil can be freshened by heating with a few slices of potato.—Magdelene Hahn, Colorado Agricultural College, Fort Collins, Colo.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The adress must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issue. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

FOR SALE—Pure bred Ayrshire Cow, fresh milch.—RALPH TAYLOR, Barss Corner, N. S.

CAULIFLOWERS AND PICKLING ONIONS for sale.—H. E. D. GOLDING, Sussex, N. B.

TO RENT—A milk business, 22 cows, 126 customers, horse, wagon, dwelling and barns, two miles from town. Easy terms.—R. CARR HARRIS, "The Ferns," West Bathurst, N. B.

FOR SALE—A few registered Holstein Cows and Heifer Calves for sale. Also one four mos. old Bull Calf from a 73 lb. cow. Write for particulars.—HENRY McINTYRE, Campbellton, N. B.

WANTED—Experienced herdsman. Permanent position. Free house, milk and vegetables. $50.00 per month. Church, school and large town near. Apply HERDSMAN, care Maritime Farmer.

TROTTER FOR SALE—I am offering my handsome young road horse for sale as I have no further use for him. A square-gaited trotter with lots of natural speed. Will price him right or exchange for a good express horse.—MRS. A. M. WILSON, Erskine St., Dartmouth, N. S.

AYRSHIRE BULL FOR SALE—Born Oct. 8th, 1913, name Good Fortune of Sunnyside No. 43270; sire Greenslack Great Fortude (Imp.) 30514 (8004); dam, Ethel of Silver Falls, 25548 Price $150.00. Owned by R. H. Corey, New Canaan, Q. Co. Address R. H. COREY, Butternut Ridge, Kings Co, N. B., R R. No. 2.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

BULL CALF FOR SALE!
Born June 7th

Grandson of schurley Sir Posch with 21 pound bucking more white than black. A dandy at $45 F. O. B. any station in N. B. with papers.

WALTER PAYNE.
Lake Edward, N. B.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

FOR SALE

A handsome, well-grown Guernsey bull. Sire purchased from the Experimental Farm, Ottawa; dam of equally good breeding, and a heavy producer. Will be sold reasonable. Full particulars on inquiry.

SARAH E. MOSES SMITH,
Woodwards Cove, - - - N. B.

BUTTER PARCHMENT
Printed or Plain, at the Maritime Farmer Office

SHOW STOCK SALE!

"Minnie Vale of Victoria," another four year old daughter of "Ida Rooker 2nd Vale," has just finished a R.O.P. record of 15.784 lbs. milk and 5.61 lbs. fat, making two daughters in R.O.M. and R.O.P., all showing a much higher milk and fat record than dams. He is also a breeder of show type as proved by his continual winnings in the (get of sire class) at all Maritime Shows.

We can sell a few grand young Bulls by him, different ages, also expect to have a show lot of P. B. and grade females at Halifax, several choice ones to freshen then.

W. M. LEA,
"RIVERSIDE FARM," VICTORIA, P.E.I.

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

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Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

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Drying Fruits & Vegetables in the Home

"Can, Preserve, Dry and Store" Advises the Canadian Food Controller

The United States Department of Agriculture has issued a bulletin giving the following information about drying of fruits and vegetables.

Reasons for Drying Fruits and Vegetables

One of the most important features of the food conservation programme of European countries has been the universal drying of fruits and vegetables. The surplus vegetables in the city markets were forced by the Governments into large municipal drying plants. Community driers were established in the trucking regions and even itinerant drying machines were sent from farm to farm drying the vegetables which otherwise would have gone to waste. In addition, large quantities of dried vegetables from Canada and this country were shipped to France during the last two years, and there is a possibility that dried fruits and vegetables may continue to be shipped abroad in considerable quantities to supplement the concentrated food diet of the men in the trenches.

The drying of vegetables may seem strange to the present generation, but to our grandmothers it was no novelty. Many housewives even to-day prefer dried sweet corn to the product canned by the old method and say also that dried pumpkin and squash are excellent for pie-making. Snap beans often are strung on threads and dried above the stove. Cherries and raspberries still are dried on bits of bark for use instead of raisins. In fact, many of the everyday foodstuffs already are dried at some stage of their preparation for market. The common dried fruits, such as prunes, raisins, figs, dates, and apples are staples in the world's markets, while beans and other legumes, tea, coffee, cocoa, and various manufactured foods, like starch, tapioca, macaroni, etc., are dried either in the sun and wind or in specially constructed driers.

Even though the drying of fruits and vegetables as practiced a few decades ago on many farms has become practically a 'lost art", the present food situation doubtless will cause a marked stimulation of drying as a means of conserving the food supply. This country is producing large quantities of perishable foods this year, which should be saved for storage, canned or properly dried. Drying is not a panacea for the entire waste evil, nor should it take the place of storing or canning to any considerable extent where proper storage facilities are available or tin cans or glass jars can be obtained readily and at a low cost.

The advantages of drying vegetables are not so apparent for the farm home as they are for the town or city household, which has no root cellar or other place in which to store fresh vegetables. For the farmer's wife the new methods of canning probably will be better than sun drying, which requires a somewhat longer time. But shorter methods of drying are available, and the dried product holds an advantage in that usually it requires fewer jars, cans, or other containers than do canned fruits or vegetables; also dried material can be stored in receptacles which cannot be used for canning. Then, too, canned fruit and vegetables freeze and cannot be shipped as conveniently in winter. Dried vegetables can be compacted and shipped with a minimum of risk.

To the housewife in the town the drying of vegetables and fruits presents special advantages. During the season when the market is oversupplied locally and prices are low she can lay in a stock dry it, and put it away for a winter's emergency without its taking up much of the needed small storage space in her home. If she is accustomed to canning her fruit and vegetables and finds she cannot secure jars or tin cans, she can easily resort to drying.

With simple and inexpensive facilities, all housewives can save quantities of food which are too small conveniently to can. A few sweet potatoes or apples or peas, or even a single turnip can be dried and saved. Even when very small quantities are dried at a time, a quantity sufficient for a meal will soon be secured. Small lots of several dried vegetables, such as cabbage, carrots, turnips, potatoes, and onions, can be combined to advantage for soups and stews.

This bulletin records some of the points brought out in a preliminary investigation of the home drying of fruits and vegetables which has been conducted by the department.

Principles and Methods of Drying

Three main ways of drying are applicable in the home manufacture of dried frulits and vegetables, namely, sun drying, drying by artificial heat, and drying by air blast. These, of course, may be combined. In general, most fruits or vegetables to be dried quickly, must first be shredded or cut into slices, because many are too large to dry quickly or are covered with skin, the purpose of which is to prevent drying out. When freshly cut fruits or vegetables are to be dried by means of artificial heat, they should be exposed first to gentle heat and later to the high temperatures. If the air applied at the outset is of too high a temperature, the cut surfaces of the sliced fruits or vegetables become hard or scorched, covering the juicy interior so that it will not dry out. Generally it is not desirable that the air temperature in drying should go above 140° to 150° F., and it is better to keep it well below this point. Insects and insect eggs are killed by exposure to heat of this temperature.

[illegible] of heat in the drier, and this cannot be determined very accurately except by using a thermometer. Inexpensive oven thermometers can be found on the market, or any ordinary chemical thermometer can be suspended in the drier. If a thermometer is not used, the greatest care should be given to the regulation of the heat. The temperature in the drier rises rather quickly and the product may scorch unless close attention is given. The reason sun drying is regularly believed to give fruits and vegetables a sweeter flavour lies probably in the fact that in the sun they never are scorched, whereas in the oven or over a stove scorching is likely to occur unless careful attention is given them.

Drying of certain products can be completed in some driers within two or three hours. The time required for drying vegetables varies. However, it can be determined easily by a little experience on the part of the person doing the drying. The material should be stirred or turned several times during the drying in order to secure a uniform product.

The ability to judge accurately as to when fruit has reached the proper

Fig. 1.—Meat grinder used for making cooked potato into strings, dropped directly into a tray for drying.

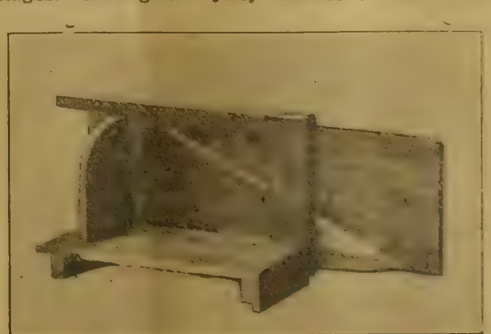

Fig. 2.—A fruit slicer of this type can be used for slicing or shredding the large vegetables or fruits.

Fig. 3.—A rotary slicer being used to cut string beans into small pieces.

Fig. 4.—The same rotary slicer as shown in fig. 3, being used to cut sweet potatoes into slices and then into strips, dropping them on to the tray, ready to dry.

but convenient and inexpensive machines which can be used to great advantage are on the market. The meat grinder (fig. 1) with its special discs can be used in certain cases; the common kraut slicer (fig. 2) will cut large vegetables into thin slices, such as potatoes and cabbage; and the rotary hand slicer shown in figs. 3 and 4 is adapted for use on a very wide range of material. A large kitchen knife may be used when a handier cutting device is not available. Care should be taken that the material is sliced thin enough but not too thin. From an eighth to a quarter of an inch is a fair thickness for most of the common vegetables to be sliced and dried. Very small slices or strips dry more quickly because they expose a greater surface to the air than do larger cut pieces. But if cut too fine they are more difficult to handle in drying, appear to lose somewhat in flavour, and cannot be used so advantageously to make above, nicks off the outer skin and leaves only the eyes to be dug out.

Blanching of vegetables is considered desirable by some housekeepers, although it is not strictlf essential to successful drying. It is claimed that the blanch gives a more thorough cleaning, removes the strong odour and flavours from certain kinds of vegetables and softens and loosens the fibre. This allows the moisture in the vegetable to evaporate more quickly and uniformly. It also quickly coagulates the albuminous matter in the vegetables which helps to hold in the natural flavours. Blanching consists of plunging the vegetable into boiling water for a short time. Use a wire basket or cheesecloth bag for this. After blanching the required number of minutes, drain well and remove the surface moisture from vegetables by placing between two towels or by exposing to the sun and air for a short time.

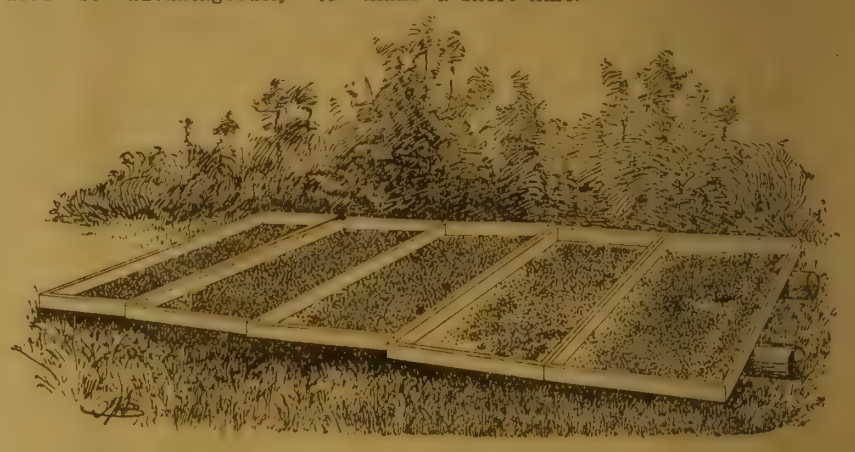

Fig. 7.—Trays used for drying fruits and vegetables in the sun.

condition for removal from drier can be gained only by experience. When sufficiently dried it should be so dry that it is impossible to press water out of the freshly cut ends of the pieces and will not show any of the natural grain of the fruit on being broken, and yet not so dry that it will snap or cackle. It should be leathery and pliable.

When freshly cut fruits or vegetables are spread out they immediately begin to evaporate moisture into the air around them, and if in a closed box will very soon saturate the air with moisture. This will slow down the rate of drying and lead to the formation of moulds. If a current of dry air is blown over them continually the water in them will evaporate steadily until they are dry and crisp. Certain products, especially raspberries, should not be dried hard, because if too much moisture is removed from them they will not resume their original form when soaked in water. On the other hand, the material must be dried sufficiently or it will not keep, but will mould. Too great stress cannot be laid upon this point. This does not mean that the product must be baked or scorched, but simply that it must be dried uniformly through and through.

It will be found advisable also to "condition" practically all dried vegetables and fruits. This is best done in a small way by placing the material in boxes and pouring it from one box into another once a day for three or four days so as to mix it thorughly and give to the whole mass an even degree of moisture. If the material is found to be too moist it should be returned to the drying trays for a short drying.

Fig 5.—This type of potato peeler removes the skins quickly, leaving the eyes to be removed with a sharp pointed knife.

Preparation of Food for the Drier

In large factories vegetables are put through special shredders and slicers not adapted for home use, dishes like those prepared from the fresh foods.

The slicing machines (figs. 2, 3, 4) are not suitable for children's use, for they will cut fingers as mercilessly as they do vegetables and fruits, and even adults should exercise great caution in their use in the home.

Cleanliness is as necessary in the preparation of vegetables and fruits for drying as in their preparation for canning, perhaps even more so. To secure a fine quality of dried produce much depends upon having the vegetables absolutely fresh, young, tender and perfectly clean. If steel knives are used in paring and cutting have them clean and bright so as not to discolour the vegetable. The earthy smell and glavot will cling to the root crops if they are not washed thoroughly before slicing, and one decayed root may flavour several kettles of soup if the slices from it are scattered through the whole batch of dried material. High-grade dried "root" vegetables can only be made from peeled roots.

In preparation of large quantities of potatoes a potato peeler such as shown in figs. 5 and 6 may be utilized. The potatoes are thrown by centrifugal force against a rough surface which, under streams of water provided by the perforated tin container

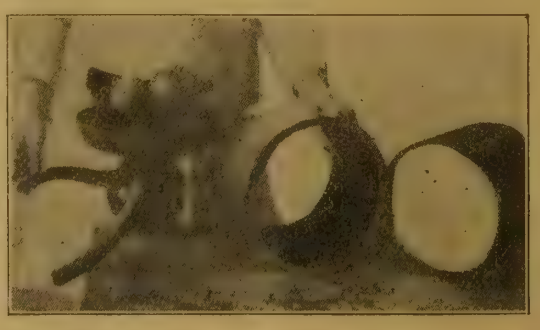

Fig. 6.—Potato peeler taken apart, showing the receptacle (right) which holds the water and the rough-walled chamber (centre) which removes the peel.

Apparatus for Drying

The drying of fruits and vegetables in the sun is a simple process if they have been prepared properly. In its simplest form such drying consists in spreading the freshly prepared slices or pieces on sheets of paper, or, if there is danger of the product's sticking, spreading on old pieces of muslin held down with stones. Bright hot sunny days are chosen for this work, and a close watch is kept to see that no rain or dew wets the product. If flies and other insects are abundant, a mosquito bar is thrown over the product. Once or twice a day the slices are stirred or turned over with the hand and the thin ones which dry first are taken out. Sun drying has much to recommend it, since it requires no expenditure of fuel and there is little danger of the product becoming overheated. Dust, however, gathers on the product, and unless it is protected carefully flies and especially certain insects which habitually attack dried fruits will lay their eggs upon it. These eggs later will hatch out and the worms or larvae will riddle the dried fruits or vegetables, rendering them unfit for the table.

Fruits and vegetables, when dried in the sun, generally are spread on large trays of uniform size (fig. 7), so constructed that they can be stacked one on top of the other and protected from rain by means of a cover made of oilcloth, canvas or roofing paper.

A very cheap tray can be made of strips of lumber three-fourths of an inch thick and two inches wide, which form the sides and ends, and lath which is nailed on to form the bottom. Spaces one-eighth inch wide should be left between the laths for ventilation and the trays can be raised off the ground by placing them on poles or an improvised trestle. As laths are four feet long, these lath trays are the most economical of material when made four feet in length.

Fig. 8.—A homemade drier made of lath and wire netting. It can be swung over the stove or back out of the way. Although not shown in the illustration, trays are made to fit into the wire and lath shalves The lath crane is fastened to the wall by means of a hinge made of a turn of wire with a loop in it which is bent around the upright. The looped wire is hung on nails which are driven into the wall and then bent upward at right angles.

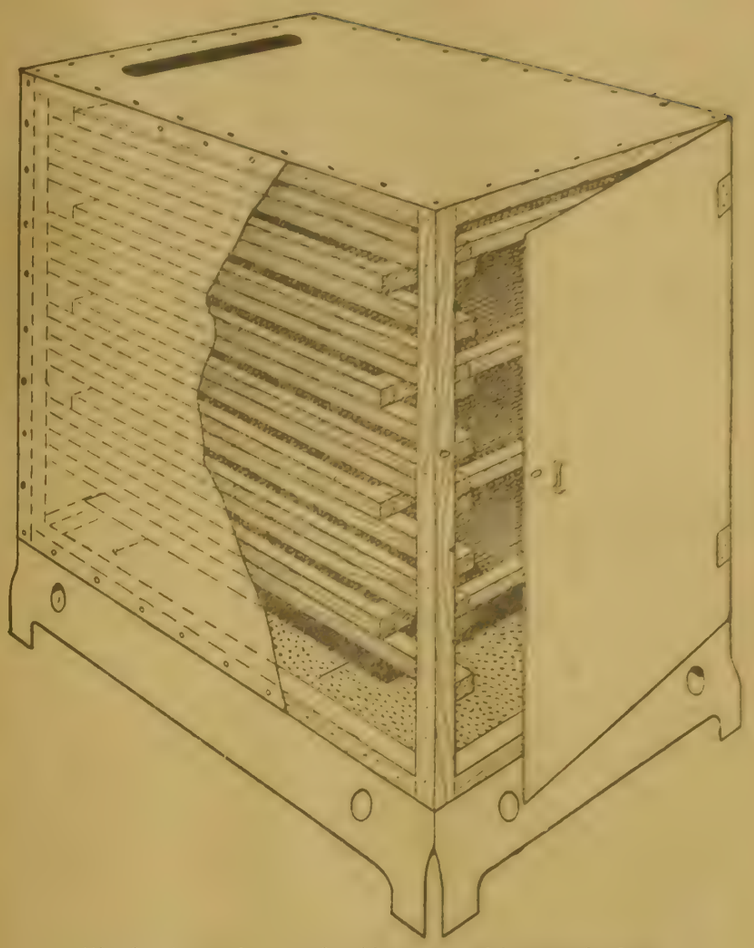

Fig. 9.—A metal covered cabinet type of homemade drier.

Better but more expensive trays can be made by substituting galvanized-wire screen, one-eighth or one-quarter inch mesh, for the laths, in which case the most economical size would depend upon the widths of the wire screen obtainable.

A cheap and very satisfactory drier (fig. 8) for use over the kitchen stove can be made by any handy boy or carpenter from a small amount of small-mesh galvanized-wire netting and a number of laths or strips of wood about one-half inch thick and two inches wide. The screen may be tacked directly on the framework to make the drying shelves, or the framework can be made to support separate trays. By using two laths nailed together the framework can be stiffened and larger trays made if desirable. This form or any of the lighter makes of driers can be suspended from the ceiling over the kitchen range or over the oil, gasolene or gas stove, and it will utilize the hot air which rises during the cooking hour. It can be raised out of the way or swung to one side by a crane made of lath (fig. 8) when the stove is required for cooking purposes, and lowered or swung back to utilize the heat which otherwise would be wasted when the top of the stove is not in use.

Fig. 10.—A patented drier to be used on the kitchen stove. It has a chamber inclosing the trays and is ventilated by a flue.

Another homemade cookstove drier that can be used on a wood or coal range or a kerosene stove can be made easily and cheaply (fig. 9). Dimensions: Base 24 by 16 inches; height 36 inches. A base 6 inches high is made of galvanized sheet iron. This base slightly flares toward the bottom and has two small openings for ventilation in each of the four sides. On the base rests a boxlike frame made of 1 or 1½ inch strips of wood. The two sides are braced with 1¼ inch strips which serve as cleats on which the trays in the drier rest. These are placed at intervals of 3 inches. The frame is covered with tin or galvanized sheet iron which is tacked to the wooden strips of the frame. Thin strips of wood may be used instead of tin or sheet iron. The door is fitted on small hinges and fastened with a thumb latch. It opens wide so that the trays can be removed easily. The bottom of the drier is made of a piece of perforated galvanized sheet iron. Two inches above the bottom is placed a solid sheet of galvanized iron which is 3 inches less in length and width than the bottom. This sheet rests on two wires fastened to the sides of the drier. This prevents the direct heat from coming in contact with the product and serves as a radiator to spread the heat more evenly.

The first tray is placed 3 inches above the radiator; the trays on the cleats 3 inches apart. A drier of the given dimensions will hold 8 trays. The frame of the trays is made of 1 inch strips on which is tacked galvanized screen wire. which forms the bottom of the tray. The tray is 21 by 15 inches, making it 3 inches less in depth than the drier. The lowest tray when placed in the drier is pushed to the back, leaving the 3 inch space in front. The next tray is placed even with the front, leaving a 3 inch space in the back. The other trays alternate in the same way. This permits the current of heated air to pass around and over the trays. A ventilator opening about 2 inches wide and 6 inches long is left in the top of the drier, through which the moist air may pass away.

This principle of construction is followed so that currents of heated air will pass over the product as well as up through it, gathering the moisture and passing away. The movement of the current of air induces a more rapid and uniform drying. The upper trays can be shifted to the lower part of the drier, and the lower trays to the upper part as drying proceeds, so as to dry the products uniformly throughout.

Still another home drier is the

Fig. 11.—The same drier as in Fig. 10, open to show the parts.

cookstove oven. Bits of food left over, especially sweet corn, can be dried on plates in a very slow over or on the back of the cookstove and saved for winter use. If the oven is very warm the door should be left ajar and the temperature of the oven noted. Trays for use in the oven can be made from a convenient sized galvanized wire screen by bending up the edges 1 or 2 inches.

Cookstove driers on the market are of two types. One type (figs. 10-12) consists of a series of trays upon which the material to be dried is spread. These trays are placed in a framework one above the other, forming a compartment through which the heated air rises carrying off the moisture. The second type (fig. 13) consists of a shallow flat metal box filled with water and designed so that one end can rest on the back of the stove and the other on a leg reaching to the floor. It also may be supported over a lamp. The use of an electric fan for facilitating drying is shown in figure 14. This is feasible for those who already own a fan. It has been found that many sliced vegetables and fruits placed in long trays 3 by 1 foot and stacked in two tiers, end to end, before an electric fan can be dried to the requisite dryness within 24 hours. Some require much less time. For instance, sliced string beans and shredded sweet potatoes will dry before a fan running at a moderate speed within a few hours. In many cities the electric fan will cost not more than one-fourth of a cent an hour to run. The fan should be placed close to the stack of trays, and they should not be filled so full that the air cannot pass freely through them. The fan method has a marked advantage in that the product keeps cool owing to evaporation while it is being dried, thus tending to retain the colour and eliminate spoilage.

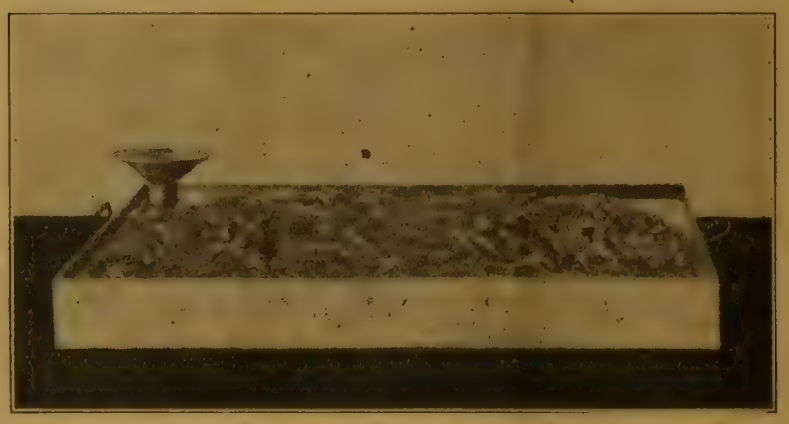

Fig. 13.—This patented drier made of a metal box filled with water, may be set on the edge of the stove or it may be supported over a lamp.

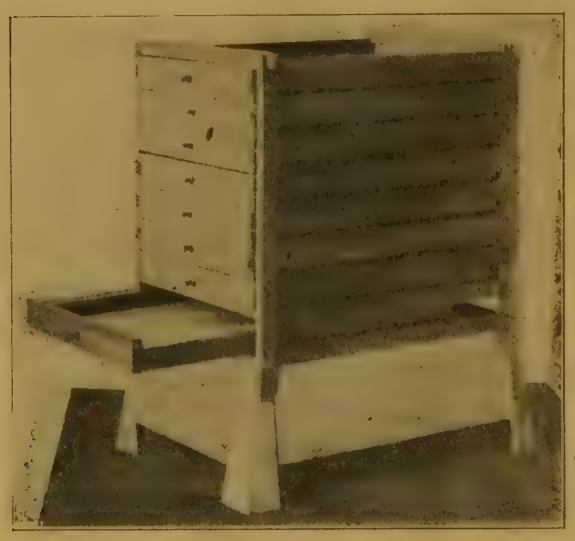

Fig. 12.—Another patented drier designed to be set on the kitchen stove, the hot air rising through the trays.

Fig. 14.—Drying fruits and vegetables on homemade racks by forcing air at room temperature across them by means of an electric fan.

The N.B. Farmers Excursion to Experimental Station

Every practical, progressive farmer conducts experiments from time to time on his own farm, to prove the advantages or disadvantages of the respective phases of his family operations. He tries and proves ideas that may originate in his own mind, or perhaps ideas that he may have gleaned from his fellow farmers, or that are conveyed to him through the press.

The progressive farmer is on the qui vive for any ideas that will shorten his work or increase the returns for his labors—ideas that will not only benefit himself but also the generations that are to follow.

All over Canada we find farmers of this class, and we are pleased that the Maritime Provinces can claim a host of them.

Experimentation in many instances costs a lot of time and money—perhaps more than the average farmer can afford. If the idea is one that, when tried, is not found wanting, both time and money expended is well spent. On the other hand, if the idea is not a feasable one, the time and money expended is wasted.

When a large number of farmers, separately conducting unworkable ideas, or ideas that will not prove of any practical value, even if put in practice, the waste of time, money and energy is enormous.

When one or more farmers test an idea and it is found practical—it may be money making or labor saving—frequently the results of the experiments conducted are not given to the public as quickly as their value would warrant. The work proceeds slowly until gradually the information is passed from neighbor to neighbor, until finally it comes to the attention of some one who will give it merited publicity.

To facilitate the work of experimentation, the Dominion Government established a system of Experimental Farms, Stations and Sub Stations, where ideas of all kinds and in all branches of the Agricultural Industry is put into practice, and an annual report of the results is published and distributed free of cost to the public.

The practical farmer of today, while conducting some inexpensive experiments for himself, allows the Experimental Farms to do the work for him. They are better equipped for the work and have more time and money at their disposal than he has.

A few years ago an Experimental Station of this kind was established near Fredericton to serve a large portion of the Province of New Brunswick. Mr. W. W. Hubbard, at one time Editor of The Maritime Farmer, and later Secretary for Agricultre for the Province of New Brunswick, was placed in charge. Farmers who knew the conditions existing on the newly purchased farm, and who have had an opportunity to witness the progress that has been made up to the present time, are best able to judge of the energy and effectiveness Mr. Hubbard has put into his work. Many waste places on the farm have been cleared and are now producing crops, and the whole area is being worked up to the stage where demonstrations of practical value are being and will be put into effect.

One may read a great deal and glean much practical information, but the most practical system of instruction is "learning by doing, and by seeing things done". This system is now recognized the world over.

The New Brunswick Farmers and Dairymen's Association, alive to this fact, instituted an annual excursion to the Experimental Farm, Fredericton. Their initial attempt in 1916 was a decided success, and when we say that this year farmers and others interested in agriculture to the number of nearly 3000, congregated there on September 3rd, Labor Day, when all labor was suspended, will readily agree with us that the excursion was successful beyond the most sanguine expectations of the officers of the Association.

All trains coming to Fredericton that day, brought in large numbers of farmers and their families. Long processions of carriages and autos dotted the highways, and they were all heading towards the Experimental Station.

The weather was all that could be desired. Dinner was served by the ladies of the Fredericton Women's Institute to upwards of 1300 people. Others brought their baskets, and the remainder who were not lucky enough to gain an entrance to the dining hall, had to go hungry. Suffice to say, that dinner was served as expeditiously as possible. As many as could be accommodated were looked after. There was not a moment to spare from the time the first excursionists arrived, until the last train pulled out.

It was a busy day for Chas. N. Shaw, The Recording Secretary; A. R. Wetmore, The Corresponding Secretary, and H. H. Smith, the Treasurer, who had charge of registering the delegates, filling in the Standard Certificates and issuing admissions to the dining hall.

The president of the Association, Mr. Isaac Baird, was also on hand to introduce the various speakers who addressed the large audience on the green.

W. W. Hubbard, the Superintendent of the Station, on being introduced, heartily welcomed the farmers. He was pleased with the idea of a Farmers' Field Day. He referred to the development ideas that are being put into practice on the Experimental Farm. From an area of 60 acres, the land fit for use has been extended to the 250 acres now under crop. He then as a guide to the visitors, explained the various departments of the farm and where they might be found.

The Minister of Agriculture was the next speaker. Mr. Tweeddale, who is a practical farmer, knows full well the various needs of his fellow tillers of the soil, and as such is in a position to help them. He has imbued the various members of his staff with the idea that agriculture is too big and important a matter to be played with for political purposes. His aim is to make his Department of practical, efficient service to every agriculturist in the province, regardless of their political affiliations, color or creed. In order that the department may be brought in close touch with the farmers, he advised every farmer to join his nearest Agricultural Society, or if there is not one within easy reach, one may be organized in any district where twenty-five or

(Continued on page 583)

THE WORLD'S WHEAT SITUATION

By N. C. Murray of the U. S. Bureau of Crop Estimates

The wheat crop of the world in a recent year has averaged somewhat more than 3¾ billion bushels and is produced from about 275 million acres. Three and three-quarters billion bushels would fill a cubic space measuring about 555 yards each way.

The average yield per acre of wheat for the whole world is a little above 13.5 bushels, the range between poor and good crop years being approximately between 13 bushels and 15 bushels. In England and the Netherlands the average yield per acre exceeds 33 bushels while in Russia and North African countries the average yield falls below 10 bushels per acre. Wheat tends to increase in yield per acre the farther one goes along the same longitude from the warmer to the cooler latitudes, until one reaches near the limits of its production. Thus the average yield per acre of winter wheat is larger in Ontario than in Ohio, larger in Ohio than in Kentucky, larger in Kentucky than in Tennessee. In Europe yields are larger in all northern countries than in southern countries. Even in England yields are larger in the northern than in the southern countries. In India, too, yields are larger in the northern than in the southern provinces. In the southern hemisphere, in Argentina, largest yields are in the southern provinces and smallest in the northern provinces, and the yields in New Zealand are much larger than in any part of Australia proper. This fact should be taken into consideration when comparing yield of one country with that of another. In countries where both winter and spring wheat are grown, the average yield of winter wheat is almost invariably larger than that of spring wheat. Less than one-third of the crop grown in the northern hemisphere is spring wheat, and more than two-thirds is winter.

In practically every important wheat-growing country the average yield per acre is steadily increasing, even in countries where the present yield is high. Thus, in England the average yield has increased from 31.2 bushels in the decade from 1890 to 1899 to 33.1 bushels in the next decade, an increase of 6 per cent in ten years.

During the past twenty-five years world production of wheat has been increasing more rapidly than the population. Wheat production since 1890 has been increasing at the average rate of about 2½ per cent. a year, while population has been increasing but little more than 1 per cent a year. The result of this development of production faster than growth of population has been an extension of wheat consumption among people who did not use it before, and an increase of per capita consumption among the principal wheat consuming nations. Statistics of production, imports and exports, taken in conjunction with population, indicate that the per capita consumption of wheat in recent years (before the war) was greater than thirty or forty years ago.

The war broke out at a time when the world was bountifully supplied with wheat as well as other foodstuffs. The wheat crop of 1913 was the largest that had ever been produced and the 1914 crop was above average. That is two large crops in succession preceded the outbreak of the war. The second year of the war was maintained from the crops of 1915.

The first results of the war of importance in the wheat situation were the closing of the Dardanelles, preventing exportation of Russian and Danubian wheat, and the victory of the Allies on the high seas—at that time ths submarines were not a serious menace. The closing of the Dardanelles, preventing the exportation of Russian and Danubian wheat and caused increased demand from other countries. This situation stimulated acreage, particularly in the neutral countries, and the season of 1915 happened to be unusually favorable for large yields. Hence the world wheat crop of 1915 was enormous—over 4½ billion bushels. A reversal came in 1916, in short, the 1915 crop was enormous and the 1916 crop was relatively short.

The present world wheat situation cannot be regarded as particularly encouraging, neither is it positively discouraging. We are nearing the close of the crop season of 1916 with low reserves and with only moderate prospects for the new (coming) crop. The United Kingdom, which is the largest wheat importer, has only fair prospects. She produces only about one-fourth of her needs. Under normal conditions she requires abut 230 millin bushels from exporting countries, vantage this much during the coming season. No information is available as to present stocks in England, as such news is censored, but it may be presumed that conditions are such as necessitate the conserving of whatever supplies are on hand. France normally produces about 325 million bushels of wheat and imports about 40 millions. Her production last year was moderately over 200 millions—a material shortage. Prospects are for little, if any increase over last year. The other European importing countries' prospects for the coming crop are not better than average, and their demand during the year may be expected to be equal to or greater than their normal demand.

Russia is normally a large surplus producer, exporting normally about 120 million bushels per year. It might be presumed, therefore, that the cutting off of this export business might result in large accumulations of wheat in that country; but this is problematical. The International Institute of Agriculture reports the visible stocks of wheat in Russia as unusually low—only about three million bushels last December, as compared with nearly 20 millions in December, 1915.

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THE GREATEST ERROR IN FEEDING THE DAIRY COW IS LACK OF LIBERALITY

Little attention has been given heretofore to dairying in its relation to the farm as a whole, or in its ecthe fact that much attention has been devoted to methods of production, feeding and care. What dairy farmers must come to appreciate is the actual value of determining the cost of production in detail, and the relation of that cost to the product and income therefrom. The object should be to show the exact status of the dairy industry and the cost of dairy products to the producer, endeavoring to reduce therefrom the economic principles that govern the dairy industry.

Factors entering into the cost of producing milk, though consisting of many different items, may be definitely divided into the following classes; Labor of man and horse, feeds, depreciation, cost of shelter, general expense, interest on investment, and use of machinery in equipment. These factors represent the actual cost of the maintenance of a herd on a dairy farm.

Figuring Labor Costs

The two classes of labor used in the dairy business are man labor and horse labor. In cost data all labor performed in the care of cattle should be charged to that enterprise at current rate of wages. This rate is based upon the employment of hired men, and is obtained by dividing the aggregate monthly wages paid, plus the aggregate cost of board by the aggregate number of hours' work performed each month. This gives a base figure of cost per hour upon which all wages are calculated for any enterprise.

The cost of feed contributes to the cost of maintenance and to the final cost of the product. Low prices for roughage and concentrates and high prices for product means profit; while with high-priced food stuffs and low prices for product profits are materially lessened.

The farm price of farm-grown feeds is the market price, less the cost of transportation from the farm to the nearest market. To illustrate: If barley is forty-five cents per bushel at the market where the farmer sells his grain and the cost of transportation from the farm to the market is one and a half cents a bushel, the farm price would be forty-three and a half cents per bushel. However, when roughage or concentrates are purchased, the cost of hauling to the farm is then charged to the cost of maintenance of the stock to which it is fed.

Value of Farm Feeds

When feeds have no market price, as is frequently the case with corn fodder, millet hay, root crops, silage, etc., the cost is based upon the feeding value as compared with that of hay or feed which has a market value.

Pasturage changes were charged on a uniform rate for each route or county. The importance of pasturage in the economy of the farm is well illustrated by the small quantity of grain or roughage fed during the pasture season. For practically five months of the year the cattle were supported almost entirely from the grass crop. During this same period the production was greater than at any other time of the year.

Under farm conditions, with stock of mixed type, milk production is seldom proportionate to food consumption. The general practice of farmers is to make the greatest possible use of roughage and to reduce feeding of grain to a minimum, especially those grains which are of ready market sale. The quantity of grain fed tends to vary somewhat with its price and availability, but there is a decided tendency to use farm grain rather than purchased concentrated mill feeds; this may or may not be good farming. However, if the grains fed are largely those containing high percentages of carbohydrates and fat, and are fed with timothy hay rather than clover, the purchase of concentrated mill feeds become imperative.

Lack of Liberality Greatest Fault.

Theoretically, at least, the greatest error in feeding the dairy cow is lack of liberality. A comparatively small proportion of cows may receive at times a ration sufficient for maximum milk production, but the greater number are constantly underfed. During June, July, August and September, little or no roughage or concentrates are fed. This leaves a period of 243 days during which partial or full feeding has to be resorted to. With an average pasture season of 163 days, there remain 202 days during which a full ration must be provided.

The quantity of milk or butterfat produced per cow affects to a large extent the cost of production per unit of product. Cost of maintenance is approximately the same for a cow producing 5,000 as for one producing 6,000 pounds of milk annually. The only difference is the 1,000 pounds of milk. Therefore, it is economy to produce milk from herds with high yields. Other conditions being the same, a cow with an average of 7,000 pounds per year will produce more cheaply than one with a yield of 4,000 pounds per year, notwithstanding that the latter will show a maintenance cost several dollars less than the former.

Well-Bred Cows Most Economical

Certain tendencies exist in the dairy industry where cows of better breeding, carrying dairy heredity, are being introduced and better shelter and care provided. Under these conditions an increasing percentage of expenditure for shelter, depreciation and interest on investment is natural. Prices remaining the same, the proportionate expenditures for labour and feeds would decrease. Thus, as herds become better bred and of more value a relative decrease in cost of care and of feed may be expected. This is especially true after stock reaches a value of $100 per head.

The expenditures for food, prices being on a stable basis, remain practically the same, even with an increase of productivity of cows and consequently of value. Well-bred herds with an average of 5,000 or more pounds of milk per cow per year, a scompared with herds producing 4,000 pounds per cow, require

(Continued on page 581)

How the Standard Gets Practically All the Cream

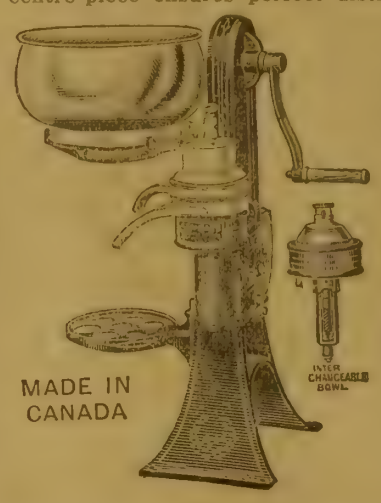
At the point where the good features of other machines leave off is the point where the Standard is just beginning to give you extra close-skimming, extra profit making advantages that open wide the eyes of everyone who cares to make comparisons. The Standard's bowl, the vital part of any separator, is unlike that of any other machine. It gets more butter-fat by far than others, and that is what counts! The

Standard

gets all but one-tenth pound of butter-fat from every 1000 pounds of milk skimmed while other machines lose a whole pound. Compare this record with that of your own or any other machine. And remember that this all-important result is proven over and over again by independent tests made at Government Dairy Schools. Here is the way the Standard out skims other machines:

First—The Standard has greatly improved the disc system. The Standard's discs are different in both size and shape and their advantages were proven by a two year test before being adapted.

Second—The Standard's exclusive curved wing centre-piece ensures perfect distribution and prevents clogging of the discs with cream. See in the picture the wide open space between the tubular shaft and the inside edges of the discs. Half of the skimming is done in that space, thus freeing the discs for perfect skimming.



Do You See Those Wings ?

The curve of the wings increases the distance over which the milk travels and the skimming force is multiplied many times. The curved wings distribute the milk in thin sheets equally to every disc space without clogging. There is no whipping as in the case with straight wings. That is why you can get firmer, better butter when you have the Standard to give you unbroken globules of butter-fat. And you get more of it—more profits—because the Standard outskims all other machines.

Write for booklet describing the Standard's even spaced discs, the easy to clean and easy to turn advantages, the exclusive self-oiling system, the instantaneous clutch, the exclusive interchangeable capacity feature—many special advantages that put the Standard absolutely in a class by itself.

The Renfrew Machinery Co., Limited

Head Office and Works. RENFREW, ONT.

Eastern Branch, Sussex, N. B.

AGENCIES ALMOST EVERYWHERE IN CANADA

INSTEAD OF PAINT

DON'T paint your pretty home this season, but use instead Velvex Creosote Shingle Stains. By so doing, you can bring out all the beauty of the wood. And think of the preservative value. Velvex Shingle Stains contain Creosote, the greatest wood preservative known. This means prolonged protection against wind and weather. It therefore means *economy.*

Velvex
Creosote Shingle Stains

Half the Cost — Twice the Wear

Velvex Creosote Shingle Stains cost about half as much as paint. And they wear much better because they penetrate the wood. They do not evaporate or dry out and of course they cannot peel off. These stains come in any color you want. They are very easily applied. You ought to investigate them. We have the complete line and we know you will like them.

Write us for a sample of wood stained with Velvex Creosote Shingle Stain.

Carritte-Paterson Mfg. Co., Limited
Halifax, N. S. St. John, N. B. Sydney, N. S.

Fruit Packages

As the Strawberry season is again approaching, how about your Boxes and Shipping Crates? We make the standard size Box and laso a 32 Box Crate. Order early and insure prompt delivery. Price on application.

The Hantsport Fruit Basket Co., Limited,
HANTSPORT, N. S.

RASPBERRY BUSHES THAT ARE DISEASED

I have a small raspberry patch, and some of the bushes are dying out. The stalks become dark in color, on some bushes there are caterpillars. The young sprouts are also affected and leaves getting dark and spotted.

J. C.

There are several diseases and injurious insects that attack raspberry bushes, and all of them are very difficult to control. Anthracnose and orange rust are two diseases that affect the leaves and canes, and there is no remedy but digging out and destroying diseased bushes. The insects that do most damage to raspberry bushes are the root borer and the haspberry saw fly. The former can be controlled by good cultivation and destroying weakened plants, and the latter by spraying early in the spring with two pounds of arsenate of lead in forty gallons of water. You should send a sample of the diseased bushes to the botanist at the experimental farm, Ottawa, and he would be able to tell you the disease and remedy. It is difficult to suggest a remedy, without first seeing the affected plants.

SAVE MONEY BY THINNING

We have never been able quite to understand the position of the orchardist who believes that it is a waste of time and money to thin his fruit. It will soon be the thinning season, and the harvest time will show conclusively how mistaken many a grower has been in leaving on his trees all the apples they will bear.

Lately we visited a large, well-kept orchard, where half the crop was undersized and, incidentally, undercolored. It took a lot of those apples to fill a No. 3 barrel. It took the pickers just as long to pick each little apple as to gather the big, blushing beauties. It brought the grower much less per barrel than No. 1 fruit.

The orchardist referred to is a good, careful fruit grower in most respects. He prunes, sprays, fertilizes at the right time—but when it comes to thinning his crowded apples he claims it takes too much time and money. It would seem obvious that if all the apples must be picked eventually, as every one agrees is essential, it would cost rather less, than more, to have them removed while they are small and can be thrown on the ground than when every apple must be carefully placed in the baskets.

By thinning you get fruit of far higher quality, you save your trees from exhaustion, and the actual outlay for thinning is less than if you wait until autumn and have the good, bad and indifferent harvested together.

DON'T KEEP DRONES

We were interested in talking to a man whose theme was that it was unprofitable business taking care of drones in the orchard. The tree that bears little or no fruit receives the same attention and demands the same expense as its fruitful neighbors. It gives no reward for the care lavished upon it.

"What remedy," we asked, "could you suggest for this condition?" "First," he said, "you must catch your drone." His method was to observe his trees individually at harvest time, and, in a notebook, where he kept a page for each orchard row, to write down the aspect and behavior of the tree that answered to a certain number in that row.

In this way he recorded the yield of each tree for a succession of seasons, and, when proof was positive that any tree was not earning its living, he removed it and supplied its place with young, healthy stock. The mere fact that a tree was not doing well did not condemn it. Its symptoms were noted and the best-known remedies given. Generally the tree responded nobly to this attention. If it were suffering from incurable troubles—such as crown gall or hairy root—no time was watsed before cutting it down.

This method of close inspection of each tree was found to be rewarding from many points of view. Poor drainage was detected, bad condition of the soil, frequency and cause of certain defects in the fruit of individual trees. The notebook became a valued business partner. We would like to see our readers enter into such a partnership.

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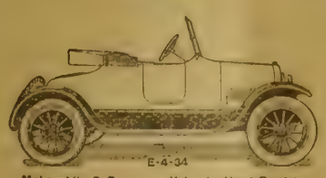
New Series "E"

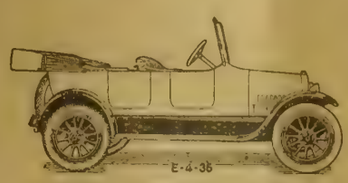
McLaughlin

Leaders in All Points of Merit



E-4-34

McLaughlin 2-Passenger Valve-in-Head Roadster



E-4-35

McLaughlin 5-Passenger Valve-in-Head Touring Car

E-6-63

McLaughlin "Light Six" Valve-in-Head Touring Car E-6-62 is a Roomy Roadster Built on the Same Chassis

E-6-44 SPECIAL

Gentleman's 3-Passenger Valve-in-Head Roadster E-6-44 Regular, Built on the Same Chassis

The New McLaughlin Models Eclipse all Previous Standards of Beauty and Value

EVEN more graceful in design with greater power the new series "E" more than maintains the supremacy accorded "Canada's Standard Car" for eight successive seasons.

The famous McLaughlin valve-in-head motor develops more power than any other type of motor of the same bore and stroke, and develops this reserve power with the minimum gasoline consumption. Every mechanical feature of McLaughlin cars has been perfected to the same high standard of efficiency as the motor.

McLaughlin designers and engineers have built 12 body styles of rare beauty—worthy masterpieces of our coach builders' art.

This complete line of 12 new models built in one group of factories and distributed by 12 branches and over 300 dealers from coast to coast includes a car for every need.

See the new series "E" before you buy your car.

SEND FOR NEW CATALOGUE

-WHEN BETTER AUTOMOBILES ARE BUILT, McLAUGHLIN WILL BUILD THEM"

See these New Series at the nearest McLaughlin Branch or Dealers' Show Room

VALVE-IN-HEAD McLAUGHLIN MOTOR CARS

E-6-45

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E-6-46

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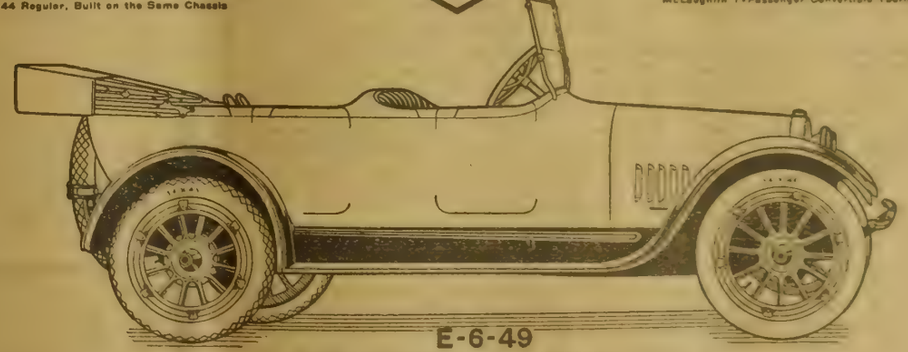
McLaughlin 5-Passenger Convertible Sedan

E-6-50

McLaughlin 7-Passenger Convertible Touring Sedan



E-6-49

McLaughlin 7-Passenger Valve-in-Head Touring Car

The McLaughlin Motor Car Co. Limited, Oshawa, Ont.

PLUM DISEASE CONTROLLED BY CUTTING AND BURNING

In July and August we find numerous interesting abnormalities on the fruit and twigs of the common and wild plums. These abnormalities are manifestations of a disease known as "plum pockets." The name is derived from the way the fruit is acected, it being first discolored, and then rapidly enlarged often to several times the normal. The surface becomes wrinkled, the pit fails to develop, and the fruit consists of only a tough skin. Along with the acected fruits we almost always find distorted and enlarged twigs.. In later stages the twigs are killed and the diseased [illegible] The disease [illegible] H E Vasey, Colorado Agricultural College, Fort Collins, Colo.

Power-house on wheels

Carries its own line shaft, pulleys, belt tightener and Pump Jack. Equal to any job anywhere, at any desired speed.

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Engines deliver 100% service. Useful in more ways than any other engine. Gilson Engines range from 1 to 40 H. P.—all styles. Write for particulars.

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DAIRYING.

HOW TO MAKE NO. 1 BUTTER AT THE FARM FROM FEEDING COW TO FINISHED MOULD

Buttermaking is an art, and there are buttermakers and buttermakers. Number 1 butter can be made as cheaply as poor butter, but eternal vigilance is the price one pays. To produce number 1 butter it is very essential that the cows from which the milk is obtained be in good condition. They must not be allowed to eat food that is in any way damaged or anything that is ill-smelling or highly flavored, such as wild garlic and other noxious plants. Nor should they drink unclean water, else they will produce milk from which number 1 butter cannot be made.

Cleanliness from start to finish is of the utmost importance. On our farm we are very particular about keeping the barn and all the surroundings neat and clean at all times. Everything that comes in contact with the milk, cream or butter is kept in as sweet and clean a condition as possible. Before beginning to milk we use a cloth and a brush to clean the udder and flanks of the cows. As soon as the milk is drawn it is strained and separated. We are great friends of the cream separator. We have used one for several years and certainly would not do without it.

As soon as possible after being separated the cream is cooled to 55 degrees, after which it is emptied in with the other cream. Every time fresh cream goes into the cream vessel it is thoroughly stirred into the cream below and the sides of the vessel above the cream wiped clean of adhering cream. This if left, always ripens too soon and mottles the butter.

In making butter we never guess at the temperature of the room in which the cream is kept for ripening or the churning temperature. We use a good dairy thermometer. One can be had cheaply, and will return its cost in a short time. In ripening the cream we bring the temperature up to 70 degrees by placing it in a warmer room, with the thermometer hanging by the cream cans. After the cream is ripened, which takes about 12 hours after bringing it to a temperature of 70 degrees, we cool it down to 62 degrees by placing it in a cool room, then hold the cream three hours and a half before churning.

It is very essential in cream ripening to stir the cream frequently to insure uniform ripening. When cream remains undisturbed for some time the fat rises in the same way that it does in the milk. Instead of being smooth and glossy it will appear coarse and curdy when poured from a dipper. As a rule ripening gives better results than slow; for instance, when cream is ripened at a low temperature more or less of a bitter flavor is the result, and if kept too long after ripening to churn it will have an off flavor.

Before putting the cream in the churn we scald the churn thoroughly with hot water, then rinse with cold water. This freshens the churn and fills the pores of the wood with water, so that the cream and butter will not stick. We think the churn has a great deal to do with the appearance of the butter. We use an ordinary barrel churn because it churns easily and quickly and there is no dasher inside to beat and break the grain and make the butter look like lard with butter color in it. We use butter color in winter, but never in summer. We carefully strain all the cream into the churn. This removes the possibility of white specks in the butter. The churn is never filled more than half full of cream.

We churn all the butter until the granules are about the size of grains of wheat. When the granules are larger than this it is more difficult to remove the buttermilk and distribute the salt. As soon as the butter granules are of the size mentioned we draw off the buttermilk and put in as much water, which is at the same temperature as the buttermilk or a degree or two warmer, as we have buttermilk. We then revolve the churn three or four times, draw the water off, and have a pail of clean cold water, which we pour on the butter until the water runs off clear.

Too much emphasis cannot be laid on the quality of the water used in making butter. It should be absolutely free from all vegetable or mossy taste or odor. Minerals must not be in excess save salt and lime and these two not to any great degree. We use clear spring water that seems to be just exactly right for use in making good butter. It is not necessary to say that none other than the best grade of salt should be used in salting butter. We prefer the flake salt, as it dissolves more readily and is not so liable to make mottles as other kinds of salt. The amount of salt to use in butter is a matter of taste and opinion. Salt adds flavor to the butter and materially increases its keeping qualities. Very high salting, however, has a tendency to detract from the fine, delicate aroma of butter, while at the same time it tends to cover up slight defects in flavor. As a rule we salt our butter rather highly. Salt very readily absorbs odors, and must therefore be kept in a clean, dry place where the air is pure, and should be at the same temperature as the butter when used.

The chief object in working butter is to evenly incorporate the salt. Our method is as follows: After the wash water is drained off salt is carefully distributed over the butter then the churn is worked just enough to get the salt into the butter, after which the butter is covered and let stand for 20 minutes or a half-hour to allow the salt to dissolve. The butter is then removed to the butter worker and the process of working is finished by working the butter enough to get the salt evenly distributed throughout the mass.

After the butter is worked it is molded. We use one-pound brick moulds. Each cake is wrapped separately in parchment paper bearing our farm name and address in fancy letters, and the butter is ready for market. We never ship our butter to distant markets. Our entire output is sold to a reliable grocery dealer in a nearby town and we always receive more for the butter than is paid for butter by City Commission men. We could sell several times as much butter if we could supply it. M. E. U.

SALTING BUTTER IMPORTANT TASK

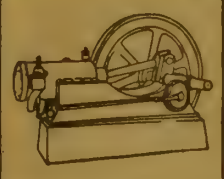
While it may be pardonable to estimate the weight of butter in churning which some are able to do with surprising accuracy, it is never a good plan to "guess" at its weight of the salt required for churning. On each and every dairy farm where butter is made there should be a scale that will weigh to ounces or finer, and both the butter and salt carefully weighed before the latter is added to the former.

FIVE great oil refineries from British Columbia to Nova Scotia—five principal factors in the country-wide organization which has made possible the supplying of high grade oils to every Canadian farm at a lower price.

We know Canada. We know farming conditions East and West. We know the lubrication requirements of the machines you use on your farm.

All our oils are supplied in steel barrels and steel half-barrels—convenient, economical. No waste. You use every drop you pay for.

AN OIL FOR EVERY FARM MACHINE



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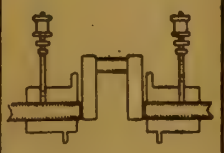

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Made in Canada

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I was cured of terrible lumbago by
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Wear PALMER-McLELLAN'S Chromoil Tanned Farm Boot

THIS SUMMER

POST PAID TO YOU

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"The Boot with the Moccasin Comfort"

Here at last is the perfect combination of boot and moccasin. The general shape is that of a moccasin, but the boot is built on a last, with a long solid counter to hold up the heel. It has all the easy foot fitting comfort of a moccasin, and, at the same time, it will stand right up and keep its shape with any boot.

The new chromoil leather used is simply wonderful. The chromoil tanning process produces a through-and-through, instead of a surface, waterproof, and a leather much stronger and more durable than any other. These new farm boots will not crack and shrivel when dried by the fire. They remain pliable in weather that freezes other oil-tans. They outwear any other boot of their kind on the market, and give solid comfort and satisfaction every day.

If you have any trouble getting these new Palmer-McLellan Chromoil Tanned Farm boots locally, mail us the price and we will ship you a pair postpaid.

Men's Sizes 9 inches high, per pair $4.50
" " 10 " " " " 5.00
Boys' " 8 " " " " 3.50

ADDRESS DEPT. M

Palmer-McLellan Shoepack Co., Limited,
FREDERICTON, N. B.

Write for free booklet describing Chromoil Tanned Leather and its merits.

The amount of salt to add to butter varies, first, according to the requirements of the market and secondly, according to the methods of making butter. No butter should contain over about 3 per cent. of salt. This is about the maximum that can be properly dissolved in butter. Butter cannot contain more than 16 per cent. of the moisture and inasmuch as water is the only dissolving substance in butter it can readily be seen that the amount of salt that will dissolve in butter is limited. If we wanted butter to contain 3 per cent. of salt and all of the salt added would be retained by the butter then we would add two and a half pounds of salt to each 50 pounds of butter which would be about three-fourths of an ounce to each pound of butter.

Ordinarily some of the salt added to butter is lost. Usually the salt is added to the butter before the water is all worked out. Some of the salt will go into the solution and drain from the butter in the form of brine. This is especially true when the butter is made in large quantities. When it is made in small quantities very little of the salt will be lost in this manner.

From 2 to 3 per cent. of salt will suit most customers, so in making butter on the farm from 1-half to three-fourths of an ounce of salt per pound of butter is as nearly right as can be. Care should be taken to use salt that is flaky. Salt that has stood in a damp place and become hard should not be used as such salt dissolves with difficulty. Salt takes up odors very rapidly and for this reason it ought to be kept in a clean place where there is no undesirable odor of any kind.

The butter should be taken from the churn in the granular form, weighed and placed on the worker, after which the salt should be weighed and added to it. The salt can be more evenly distributed when the butter is in granular form than when it has gathered and even distribution of the salt throughout the butter is of course a very important feature in first-class butter production. The butter should be worked until all the salt is dissolved, otherwise the butter will be gritty and gritty butter is not desired by anyone. C. H.

MKAING ICE CREAM; A STANDARD RECIPE

In making ice cream the following hints should be borne in mind: The best cream to use is double cream; the next best single cream. By way of explanation. Cream which is skimmed off of milk after it has stood 12 hours is called single cream; that which is taken off at the end of 24 hours is called double cream, and that taken off at the end of 36 hours is called butter cream. The best double cream and which can all be whipped to a stiff froth, is obtained by letting single cream stand 12 hours, and then taking off the richer part. If any milk is used it is apt to give the ice cream a mushy, snowy taste, because the water it contains will freeze into coarse crystals, and it melts quicker than when pure cream is used. However, very good results are obtained by using some milk. When short of cream, it is well to remember that to add a little, if not more than half a teacup, is always better than to use none.

Double refined or sifted white sugar is the best to use.

The best ice to use is snowy ice which is full of air holes, and is readily penetrated by the salt. The ice is most easily broken up by putting it in a coarse bag and pounding it with an axe or mallet until broken in pieces about as large as walnuts. The finer it is broken, the faster it melts. Pack it firmly into the freezer, add enough water to make it into a thick mush, and then put in the salt (the coarser the salt the better.)

It is not necessary to draw off the water as fast as the ice melts, but wait until it floats the ice.

Before beginning to freeze ice cream, let it stand in the freezing can, packed with ice, but covered only with gauze, until it is thoroughly chilled; if this is done it will freeze more readily and take less ice, and also, if not cooked, it is apt to become granular, or curdle, if the attempt is made to freeze it while warm or lukewarm; in any event it should be thoroughly chilled before freezing.

Newly frozen ice cream is apt to be mushy, and lacks flavor and consistence, so that after being frozen it is best to pack it down and let it ripen 4 or 5 hours before it is served. In packing down ice cream which is to be kept for some kind, turn off the brine, pack in some coarser ice and salt, and cover with an old carpet or piece of blanket wet in brine.

It is best to do the freezing in a warm room, because the ice melts more rapidly, but after it is frozen, however, the cream must be kept in a cool place.

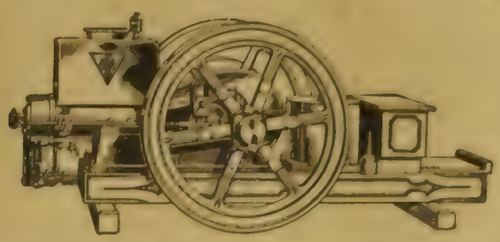
Once freezing operations have begun, continual stirring is necessary, and any cream which washes up against the side of the can and freezes must be scraped off and mixed in with the balance of the contents. Unless the contents are thoroughly stirred before the freezing takes place the whole will be spoiled. The dasher of the freezing machine must not be turned rapidly, as that prevents the cream from being smooth. Turn evenly and moderately quick.

The first step in the making of ice cream should be the packing of the freezer, so that the ice and salt may get thoroughly chilled. Use one part salt to three parts ice.

Standard Recipe

One quart cream; 1 egg; 1 cup sugar; 2 to 3 teaspoons flavoring, according to strength. Add yolk of eggs and sugar together and beat. Then add this to the cream. Put in the freezer and when partly frozen add the beaten white of eggs and just before finishing freezing add the flavoring.

ALPHA



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LIVE STOCK.

GROW THE HOG THAT PAYS PROFIT ON FEEDS AND SATISFIES THE PACKERS

It is a fact that the potential superiority of the pure-bred hog has become so thoroughly established in the breed that when mated with females of no breed, reasonably satisfactory results are secured. It is often the case that the grade dam will give birth to satisfactory large litters, a matter in which she is probably the controlling factor, but the qualities of quick growth, uniformity, early maturity and sometimes the profitable outcome of the litter are generally due to the prepotent, transmissible superiority of the male. If this were not true then all our boasted progress in animal husbandry is a delusion, and all our care and expense of keeping strains, families and breeds pure, making pedigree records, and selecting for type and performance are wasted efforts of enthusiasts.

If it is true that there is merit in purity of blood, which has been intelligently selected and concentrated, then it is absurd and disorganizing to advise that the most profit lies in the cross-bred practice of diffusion. Indeed the opinion may well be entertained in all our lines of animal husbandry that diffusion is much too general by the unwise, violent outcrosses within the breeds.

The fundamental object in swine breeding is for the production of the greatest numbers of quickly growing pigs. Hog raising is purely a market proposition. A man may keep a horse or a cow—even a dog—beyond its years of real usefulness for love or association's sake, but with the hog our regard for him is purely mercenary.

We have, therefore, come to regard prolificacy in the swine mother as of very great importance, so much so, indeed, that we do not always differentiate between numbers and profit, for all experienced hog raisers know that it is easily possible for an over-zealous sow to numerically discount herself by producing a larger number of pigs than she can raise well.

As a rule, for the average sow it will be found that there is more ultimate profit in a litter of ten pigs than in one of twelve, and often more in eight than in ten. The successful orchardist thins his fruit to the ability of his tree, and I am sure all growers of pigs may at least consider this as a suggestion to them. But the number of offspring recommends the sow to most owners and therein may rest the popular but absurd idea of mixing pure blood with plebeian in swine.

The best type of hog from the standpoint of the packer is the one that will cut out on the block the most valuable meat with the smallest per cent. of cheap meat and offal. The ideal hog from a packer's standpoint, as I see him, beginning at the front end, should have a medium short head with a medium to small ear, jowl full but not heavy and baggy, as it furnishes cheap meat. The neck should be short and full; shoulders set well in line with the sides and rest of the body with no tendency to shields or thick hide. The chest should be full and well let down with good width between the front legs, and there should be no depression back of the shoulders, either on top or at the sides. The lower line of the chest should make a perfectly straight line with the lower line of the belly and flank.

The back should be slightly arched with rib well sprung, but not beyond the side line. A stick standing perpendicular and touching the edge of the rib should also touch the belly line and side at every point. The loin must be thick and full and the mat covering the loin and the back should be of firm quality, but not hard. The sides should be perfectly straight and deep with the flank low and in line of the belly. In my opinion, no point is more overlooked and is less considered by hog breeders than the flank. A deep side and middling cannot be had without a low, deep flank, and a good flank is very seldom seen without a correspondingly good side and ham.

The two points most indicative of a quiet disposition, easy feeding, early-maturing hog are head and flank. The rump should be almost level with long coupling and tail well set up in line of the back. A short coupling is nearly always accompanied by around rib, high flank and not enough body depth. The ham should be even with the rib and side line and let down well to the flank, but not out of line or proportion with the rest of the body. A big, bulging ham is very seldom seen on a well proportioned hog, whose top and side lines are even and where the flank is properly let down. A very wide ham goes with a high flank and round rib, which generally means not enough depth and width below. A baggy ham at the bottom, often termed by breeders a "meal sack" ham, is undesirable to the packer, all the lower, flabby meat being waste.

Good length is desired. The distance from the root of the tail to the centre of the forehead should be about the same as the flank and heart measurement. The legs should be set well out at the corners of the body, and be straight, tapering nicely to the foot, with short pastern joint and toes set closely together. The bone can be heavy, if short, although a medium bone of good quality, sufficient to carry a heavy body, suits the packer just as well. A big, coarse bone and long legs very seldom have the uniformity and quality to bring a top price.

The coat should be smooth and soft to the touch, which usually indicates a thin hide and good quality of meat. Probably the most important point of all is the body surface, which should be perfectly smooth and free from wrinkles and creases. The flesh should be firm to the touch, soft, blubbery flesh that puts on unevenly being almost as undesirable as a thick, wrinkled hide. Evenness and smoothness are things most desired by the packer.

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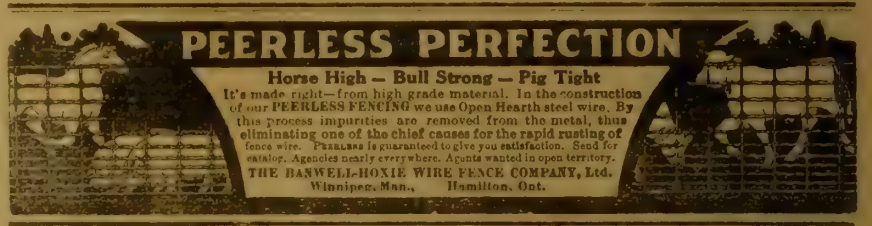
CALVES WITH SCOURS ARE NOT THRIVING

I have a number of calves out on grass betting a little separated milk. They have the scours bad for a month. I have tried everything but cannot get them stopped. The calves are very thin. Kindly advise what would be good to stop the trouble. H. J.

In suggesting a remedy for the difficulty we would be in a better position to do so had our correspondent told us the age of the calves, their treatment before going on to grass, how long they were fed whole milk, manner of making the change, the age that they began to scour, the quantity of skim milk fed, etc.

Scours in calves are almost invariably (unless a germ disease brought on by improper feeding and once they become chronic are often difficult to cure.

In the first place the new-born calf should be fed its mother's milk for a few days, either by allowing it to suck or by feeding it from a pail. If the former, it should not be allowed to gorge itself or this may bring on scours at once. It must be remembered that domestic cattle are not under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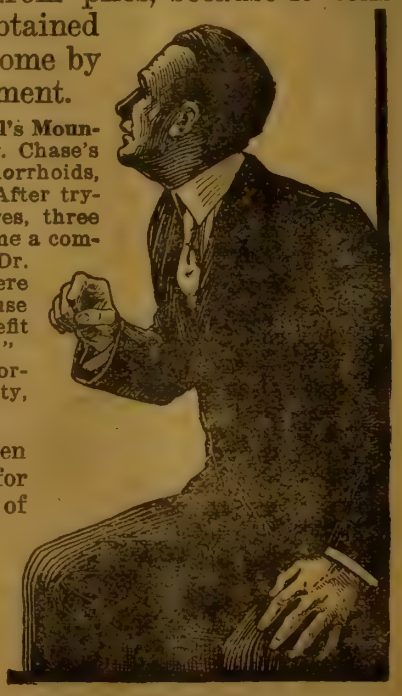
Piles Cured
By Dr. Chase's Ointment

IT is a surprise to many to learn that there is any cure for piles short of a surgical operation. The doctors have encouraged this idea until the sufferer from this annoying ailment lives in constant dread of the surgeon's knife.

This letter from Mr. Campbell carries a message of good cheer to all sufferers from piles, because it tells how relief and cure can be obtained in the quiet of your own home by the use of Dr. Chase's Ointment.



Mr. Donald M. Campbell, Campbell's Mountain, N.S., writes: "I have used Dr. Chase's Ointment with great success for hemorrhoids, or piles, of fifteen years' standing. After trying all kinds of so-called pile cures, three boxes of Dr. Chase's Ointment gave me a complete cure. I have also used Dr. Chase's Kidney-Liver Pills, and there are no others so good. You may use this letter, if you wish, for the benefit of others who may suffer as I did."

(Sworn before me, Murdoch Gordon Campbell, J.P., in the County, and for Inverness County.)

You are not experimenting when you use Dr. Chase's Ointment, for it has an unparalleled record of cures to back it up. Beware of imitations and treatments said to be "just as good." They only disappoint. 60c a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto.

natural conditions altogether and give much more milk, hence the danger of calves taking too much feed right at the start. If the calf is fed from a pail it should be clean (any old pail isn't fit to feed a calf from) and the milk should be warm. If it has cooled off perceptibly the pail should be set in another larger one into which a quantity of hot water has been placed and restored to the original temperature. From one or two quarts three times a day will be sufficient for the first day or two, gradually increasing to a full feed, being careful at all times not to give too much or there will be trouble with indigestion and scours. No definite amount can be stated as the proper quantity to give a calf. Two quarts may be too much for one calf, while on or even two gallons will not be too much for another as it grows older.

Where calves are to be fed skim-milk the change may begin at about three weeks old; possibly sooner, but it pays to give a calf a good start and nothing will do it as well as the warm whole milk. The change should be very gradual substituting an equal quantity of skim milk to the amount of whole milk withheld until at the end of a week or two days a complete change has been made. At the same time a teaspoonful of boiled flax seed made into a jelly should be added to the feed and increased accordingly, until half a cupful is reached twice a day to two months old. At one month old the calf may be given a handful of corn meal and wheat bran in equal parts increasing with its age. If desired the flax seed jelly may be gradually dispensed with as the corn and bran increases. The latter should be fed dry in a clear box or pail with a pinch of salt daily and all the clean fresh water and sweet fresh clover or alfalfa either green or dry, it will consume.

Many calf feeders are careless about the condition of feeding pails and allow them to become dirty and sour, which is pretty sure to induce scours or indigestion sooner or later. They should be kept clean even if it is necessary to scald them occasionally for this purpose. The same may be said of the manger, watering troughs and pens. No calf will thrive on dirty feed and in filthy quarters.

Too much attention cannot be given the matter of regularity in feeding milk and having the temperature right for young calves. Cold milk, and particularly cold skim milk, will almost surely bring on scours.

Giving so much attention and care to the young calf may seem fussy and unnecessary to some, and there are, no doubt, individuals which are not so readily affected to adverse conditions as others; but at the same time, it is the experience of most feeders that sooner or later neglect to observe the laws of nature and sanitary conditions will bring them into trouble. "An ounce of prevention is worth a pound of cure," and in the end is usually much easier applied and immensely more profitable; for it is only as calves are kept in good health and growing rapidly that the best results can be obtained from any economical standpoint.

For your calves we would recommend a dose of castor oil to clear out any irritating matter from the bowels and the feeding of whole clean milk for a few days until the normal state has been reached, and then a gradual change to the skim milk as suggested above.

The EMPIRE'S NEED

is YOUR OPPORTUNITY for Splendid Service and Substantial Returns

The seriousness of the food shortage is clearly shown by official figures as well as by prevailing prices. The world's crop this year can scarcely be sufficient for twelve months, so that the need in 1918 will be still greater.

This shortage not only threatens hunger for most of the civilized world, but it threatens the victory of the Entente Allies. The extra supplies so urgently needed must come chiefly from the farms of Canada and the United States—for the other great wheat producing countries are so far from Europe that the scarcity of ships prevents full utilization of their crops.

On every Canadian with land to till this situation lays a tremendous responsibility. At the same time it opens up a wonderful opportunity to transform daily work into the highest patriotism and National Service—to feed the men and women who are fighting and working for victory--and to secure such returns as have seldom been known from farming.

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BLOODY MILK, ITS CAUSE AND CURE

What shall I do for a young milch cow that gives bloody milk from one teat. Have given her one pound salts every other day for ten days, and she is not improved. J. B.

Bloody milk may occur shortly after calving because of a partial breaking down of some of the secrteing cells of the udder. Bloody milk may also be due to an injury to the udder such as striking it with the hocks. The latter condition might take place quite frequently during flytime when the cow is fighting flies. A cow with a large, rather pendulous udder will be more likely to injure the udder during this period. Another cause of bloody milk is the presence in the udder of lesions of tuberculosis. In this case there can usually be detected some hard, firm lumps in the udder. In treating or doing away with the trouble, the udder should be bathed with hot water twice a day. Milking out the udder three or four times a day will further encourage a termination of the trouble. If the pasture is some distance from the house it would be a very good plan to milk the cow in the pasture instead of bringing her all the way to the barn with a distended udder. Unless the bloody milk is due to tubercular lesions you can expect by proper handling to be rid of the trouble in a reasonable length of time.

THE HORSE

THE HORSE AND THE SYMPATHETIC HAND

A man came to my place the other day for whom I have rebitted several horses. He asked me to drive around and examine his road horse's mouth. I consented on condition that he would do my job of sprinkling the grass, in my absence. It was exceedingly dry and I have arrived at an age where a grass-patch is one of my chief anxieties. The horse went all right, but when I got back that man was fighting the hose. "Here," said he, "take it. I never saw such a thing; it has nearly twisted my wrist off." It was a revelation to me that the man would fight anything, even a hose. Instead of letting it turn its twist out he had fought and held it for the half hour I had been absent. Of course that is the way in which he handles a horse's mouth.

Now here is an opposite case. A woman who has a big stable of show horses became seriously ill and her doctor forbade her to resume driving any horses that pulled. Her manager rebitted the whole stable, getting them light on the bit, and she drove them that way with more success than before. Their action was lighter, airier, yet truer than when they were lugging.

Hands, that is all. The sensitive hand which can give and take, which should be normal on the snaffle, is far more difficult to acquire with heavy bitting, which makes horses more or less uncomfortable and leads them to est themselves against one. The worse the hands, more inadmissible is heavy bitting, especially since few understand the adjustment of curbs, parts, gags and other contrivances, yet we see poor express horses and slaves that need no restraint, hampered with such contrivances to make their lot yet harder, and ignorant drivers jerking their mouths to stimulate their efforts.

The city horseman is almost a man of the past. There need be little regret, if our good friend horse passes altogether from the cruel paved surfaces, ill-ventilated stables and the hands of the cruel and ignorant, and begins and ends his career upon the farm, where as a rule, he meets with some consideration and is among friends, where the end of his life is made easier instead of increased in hardship, as he is less able to bear it.

Farmers will lose a osurce of profit if they cannot sell the big ones to the city, but the country will reap the benefit of horses at the height of their powers, trained to farm work, so that they will be a more efficient part of the farm equipment.

THE EFFICIENT HORSE IF PROPERLY HANDLED GIVES HIS LABOR FREE

In these days of commendable anxiety to increase the output of Canadian farms it is well worth while for us to remember that after all has been said and done about supplying mechanical power to do field work a large amount of the farm work will continue to be done by horses. There is much that the tractor can and should do, but the statement lately appearing in a literary weekly to the effect that the farm horse's days are numbered does not seem to be justified unless a large number is used. Some farms may dispense with the horse, but many more will continue to make a large use of it for doing all kinds of field work. The efficient horse will find worth-while work to do for a longer time than will the horse that for one reason or another is poorly qualified for exacting work.

The difference between the results that are secured from a day's work with a team that is strong and active and from a day of partial loafing on account of ineffective horse power amounts to a great deal in these days of urgent need for doing the maximum amount of field work. A number of striking examples of slow farming due to inefficient horse power may be found in almost any community, especially where small farms are the rule. The handicap imposed by delayed spring work is one that can hardly be overcome, no matter what is done, for the season's work needs to be turned off on time if the "Food Production" programme is to be carried out.

The horseman with a true interest in his team must remember that the succulent feed of summertime has a softening influence on the staying power of the animals. This comes at a season when their staying powers are most required, and accordingly it calls for some intelligent consideration. In nature, summertime is the animal's easy time, in the domestication of the horse it is his hard time. Yet it is possible, when rainy spells come with idle days on the grass, to do much to prevent the softening that is too often allowed to occur if field work is interfered with by bad weather or any other hindrance. It is detrimental to the health and spirit of the team to work them full steam ahead when newly taken from two or three days' freedom off the grass field. It

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The initial cost of a Ford car is so small that every progressive farmer can readily purchase one.

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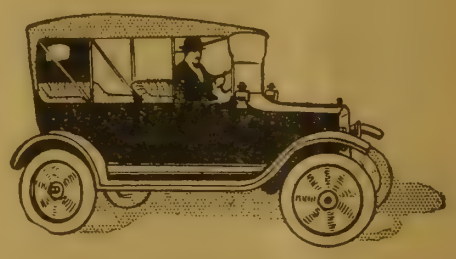
The low cost of running the Ford makes motoring possible for the masses, where it was formerly a rich man's luxury. It makes motoring a matter of good business, especially for those whose time is valuable. And with labor so scarce no one needs the time-saving Ford so much as the busy farmer!



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America's Pioneer Dog Remedies

BOOK ON

DOG DISEASES

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is better to take them in over night before the day intended to work them, and treat them to a grain feed in the morning and a little hay.

If it is not possible to find work that may be done when fields are not fit to work in the horse may usually be given exercise by turning him into a paddock or field, remembering that it is not wise to take away all of the grain feed, but rather that it is advisable to feed enough grain to keep the horse in strong condition.

Veterinarians tell us that there is a great danger of serious illness due to azoturia if care is not exercised when the work horse is kept in the stable for a few days following a period of active work and generous feeding. The way to avoid this serious disease is to see to it that the horse takes some exercise every day if at all practicable, or to reduce rather sharply the allowance of grain feed when enforced idleness is experienced. The losses from this disease constitute a considerable part of the avoidable waste in livestock management, and it is important that all of this waste be eliminated at the earliest possible moment.

There are many horses that are fed so small an amount of grain, even while at hard work, that they are physically unfit to do a really good day's work. The use of a fair amount of feed for the work horse is necessary if he is to perform his work in an acceptable way, and the economy that is attempted through cutting down the grain ration of the hard-worked horse is not true economy.

When all grain feeds are as costly as at present it is not possible to formulate a ration that will be cheap and efficient. In general the work horse that is used for fairly hard work should receive approximately a pound of grain and a pound of hay daily for each hundred pounds of his weight. The proportion of grain to roughage depends on the amount and kind of work to be performed. A horse hard at work should never be expected to consume more roughage than grain by weight, that is in his working hours. Oats lead easily among the grains as a horse feed. When it is fed, the horse exhibits mettle as from no other food.

Although there is some complaint on account of the fact that horses are selling at prices which are not in keeping with the prices for which other farm animals sell at present, yet it cannot be said that good horses are low in price, and there is no apparent reason why all good mares should not be bred this season. Increased farm production, the resumption of normal shipping of export goods, as well as the great need that will exist in foreign countries for horses after the war, all unite to make the future of the horse business seem likely to prove profitable to the man who is careful to produce only efficient animals.

The brood mare which works and raises a colt is an efficient farm animal and deserves a place on far more farms than are now giving her a place. If a really good mare is owned it is well owrth while to see to it that she is bred to none but a good stallion. If colts are being raised from mares that are being worked both the mare and the colt should be generously fed. The underfed mare that is working and producing milk at the same time is really being mistreated. A good feed of grain each day for the colt will do much to hasten the date at which he may be weaned, and will also save the mare, for the well-fed colt will not suckle the mare as hard as will the colt that has but little food other than that furnished by the mare. This does not mean that either the mare or her faol needs be pampered, but rather that there is real need of supplying a generous amount of suitable feeds if the mare and colt are to go through the summer in good condition. It is better to keep the colt in the barn while the mare is at work, instead of allowing it to follow the team in the field, to the detriment of both the mare and the colt.

The comfort of all horses that are at hard work should be given careful attention, if best results are to be secured. The horse that has an ill-fitting harness to gall and bruise him and a stall that is uncomfortable instead of affording ample room, a clean bed, and adequate ventilation and light, should not be expected to come up to the high requirements that are set for the efficient horse this year. The genuine horseman will not find it burdensome to do things for the comfort of his horse that many would think of little consequence, and it may be that no one of these things is of much importance, but in the aggregate they surely amount to a very great deal, often meaning the difference between keeping a team at work and being kept from the field on account of the avoidable bad condition of one or more of the horses.

If the high mark that has been set for Canadian crop production is reached this year it will be in part because there has been available a generous supply of horse power with which to till and harvest the abundant crops that are so sorely needed by a war-torn and hungry world. If the horses efficiency is impaired by poor feeding, uncomfortable quarters, inadequate care, poorly-fitting harness, or lack of water during hot weather (especially after the evening feed and as needed during half-days), the teamster may with perfect propriety be charged with neglect of man's best wartime animal friend—the efficient horse. B. E. CARMICHAEL.

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I can say that I have for the past three years been a user of GOMBAULT'S CAUSTIC BALSAM, and have found it to be all that is claimed for it, and have in a great many instances recommended its use to others.—E. D. KIRK, Antigonish, N.S.

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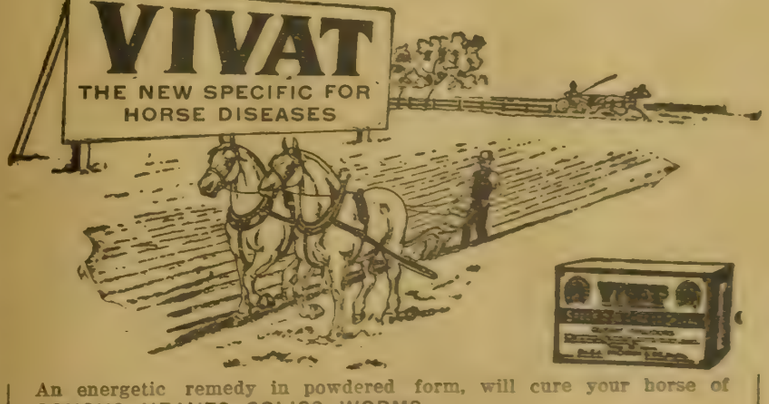

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POULTRY.

MAKE HENS PAY THEIR WAY EVERY MONTH IN YEAR

We have modified native habits and characteristics of poultry by combining systems until, like all domestic animals, they are the product of their surroundings. Any method of feed, care and housing will ultimately tend to develop a type adapted to the special conditions created. Just as we try to adapt conditions to circumstances, Nature attempts persistently to adapt stock to its environment.

This is why concentration on any one system designed towards certain ends will finally succeed. Success can be attained by any harmless correlation of breeding, selection, feed and care; and permanent success can not be secured by any but persistent consistent methods.

If we select breeding stock, year after year, with clearly defined unchangeable objects, cull and care for flock with these ends in view, we will win success. And if, at any time, we shift to an entirely different method .even if that new method be equally good or even more scientific) we will need to adapt our stock to the change, and for a long time get uneven results.

Why?

Becouse Nature will have been working with the first long-continued combination, and has therefore aided a given strain of fowls, in a given locality, with the given methods of a given person to bring forth results. To change any phase of this combination is to give Nature a new problem, and the worthy dame has never been quick to revolutionize her processes as she is naturally conservative.

We do not yet understand the mysterious mechanism of a hen. We do not even know why she manufactures quilled plumage and shelled eggs from material from which other animals get unlike results. We do not know why the hen's organs manufacture specific ferments which enable her to digest and assimilate rock and mineral substances. We simply recognize these facts as part of Nature's ways, and accept them.

We do know that fowls eat a wonderful variety of plant and animal feed when they can get it, and that a large rich range furnishes the foraging birds with food-elements which they seem to require. We also know that our flocks should have inherited tendencies of hardiness, resistance, immunity to disease, and ability to get the best possible results out of the elements obtained from air, feed and drink. We also know that the degree to which a hen may develop its various functions depends upon the inherited tendency and that any predisposition in any direction is determined by the keeper's ability to breed good or bad characteristics in or out by proper methods. Just what special things contribute most toward certain desirable or undesirable results are not altogether known.

As an egg is largely water, it is self-evident that a hen must obtain a great deal of fluid either i ndrink, mash, fruits or vegetables. And it is certain that all other elements in the egg must be supplied the hen, for she is not a fakir.

There are three kinsd of nutriment which nature supplies in food; proteid or nitrogenous material; fats; and starches and sugar, which are called carbohydrates. Nitrogen, sugar and starch are terms easily understood, so they are preferable to such words as protein and carbohydrate. Starch and sugar become identical when digested and are the chief source of fat, the nitrogen may also be turned into fat.

Fat in feed is not necessarily turned into bodily fat. The individual hen which has the constitutionel tendency to use fats for burdensome flesh, instead of converting it into energy, simply has that idiosyncrasy. She does not long belong in the breeding pen. he is usually a lazy bird, which is why she is filled up with layers of free fat. Though such a condition may be induced by too liberal supply of sugar and starch in the feed, the hen which is so affected is of little value in the laying pen. Such a hen is a nuisance, because the care and ration suitable for her would not be proper for the birds which really are valuable for egg-production. Her elimination from the flock is an important but much-neglected law of breeding. The right kind of birds will never suffer from liberal feeding, if given opportunity for exercise. Birds who thus misappropriate feed are only fit for table use nad should not run with general stock. Culling and careful breeding will prevent the effort sometime wasted in preventing fowls from becoming too fat.

Dry feed and fresh-air houses are advances toward nature's methods. Those of us who have tried them are satisfied with results; but for many, they mean a radical change in surroundings of flocks and should be adopted gradually, else will nature rebel at the sudden change. All efficient labor is applied science, and these two methods are scientific and natural; but the most scientific of us should move slowly with things we do not fully understand.

Even with the best of care, none of us will elevate the entire flock in one or two generations. Nature will reward any correct move by a few superior specimens; but this is only because she will perpetuate the individuals best fitted to environments, for what we regard as successful ways are not Nature's original ideal as to result. Nature never intended any bird to lay enough eggs to satisfy present-day keepers, who of course wish the poultry to revert somewhat to the ways of fish in prolificacy. What we call the best specimens are therefore not what Nature considers best. They are those which have responded to all that made for our own ideal in the method of selection, feed and care. When we strike the right combination, we must—so far as possible, personally apply the combination of factors which have produced them. Any departure from the natural, or any desired improvement, may be fixed in the strain only by careful selection of breeders followed by a system of feed and care which is appropriate. We may consider any superior specimen which appears in our flocks a proof that nature is working in harmony with our method, and that each generation will be better fitted for that method if we continue to use it properly without any extreme changes in our modes of maintenance and care.

These things are the basis of the flock which averages a two-dollar profit for each bird. To make that profit on any hen with only an average lot of birds necessitates the keeper hatching enough chicks so that he can cull very closely, get rid of all superfluous birds, and keep no old birds except for breeding purposes. By December, every chick hatched this spring should have paid for its feed eight times over—even if all feed is bought —and they should continue to be profit-makers on a big scale until April.

If there is a month in the year in which the flock does not pay full value for all the feed consumed, the keeper's method and nature's ways are antagonistic. As nature cannot be coerced into making quick, radical changes, this means that the keeper must readjust his own plan of action.

LILY WHITE CORN SYRUP for Preserving

Use one-third "Lily White", and two-thirds sugar by weight. This prevents Jellies from candying and protects preserves of all kinds against fermentation and mould.

At all dealers in 2, 5, 10 and 20 pound tins.

Write for free Cook Book.

THE CANADA STARCH CO. LIMITED,
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AN OINTMENT FOR VERMIN ON CHICKS

Don't forget to dose the hens and chicks, after feathering, with an ointment made of equal parts of blue ointment and vaseline or lard carefully mixed together. Rub this ointment thoroughly onto the skin under each wing and also a little below the vent of each bird, using a portion of the ointment the size of a small grain of wheat for each of the three places, and half as much for a half-grown chick. Repeat once in two or three months. This is a sure remedy for all kinds of external poultry parasites except mites.

For mites keep the roosts and nests painted once a month with coal oil or, better yet, crude petroleum. Also paint with the same preparation the coops where the young chicks sleep.

POULTRY NOTES

It is a good plan to have awnings or hoods of cheap muslin or boards to go over the windows of the hen house to keep out the sun, and thus keep the house much cooler. But it is not advisable to have these awnings up during the winter, as the sunlight is needed in the houses to purify them.

WHY DREAD OLD AGE?

IT should be the pleasantest time of life and if coupled with good health it is. Many of our most remarkable men and women have won fame and prominence after reaching the sixties, and in lots of cases they have not been robust in youth.

The secret of health in old age is the prevention of bowel disorder. Constipation is the foe to be dreaded. Care in diet is necessary, also the avoidance of harsh cathartics, which only aggravate the trouble.

The ideal laxative for aged people is Chamberlain's Tablets

On account of their mild and gentle action, you hardly realize that a medicine has been taken. Yet the effect is none the less certain, and the tonic properties of these Tablets so build up and strengthen the digestive system that the health is greatly benefitted. Try a bottle today.

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CHAMBERLAIN MEDICINE CO., TORONTO 44

CHAMBERLAIN'S TABLETS 25¢

HOW TO TREAT FARM POULTRY WHILE MOULTING

One of the most trying times for the poultry will soon be at hand, and this is the moulting period. It is most essential that the fowls have the best of care at this time.

The fowls should be kept as cool and comfortable as possible. Heat has a debilitating and weakening influence on the birds and renders them in a physical condition so low as to make them unfit to cope with the trying ordeal they must undergo while moulting. The fowls should not only be kept cool in the daytime but at night as well. To permit them to become overcrowded and overheated at night will do nearly as much harm as confining them in bare yards in the sun. The roosting quarters should be kept as cool and free from vermin as possible. The roosts and supports should be sprayed often with coal oil to get rid of mites. Ample roosting quarters should be provided so the fowls won't need to crowd and become overheated. If there are no trees to shelter the windows from the rays of the sun, then some means should be adopted to exclude the sunshine. A sort of awning constructed on the outside upper half of the window will tend to keep out the sun and at the same time permit the cool breezes to enter. By excluding the sun entirely during the day the coop will be much cooler during the night. Were the sun permitted to shine in the windows the interior of the poultry house would become heated up very quickly and would be cooled off with difficulty.

Those who raise exhibition birds appreciate the fact that shade is very essential. Mottled or twisted feathers often develop during the moulting period and they can often be attributed to the hot rays of the sun. Unless the defective feathers are detected in time to be corrected the winning chances of the birds are often destroyed. When feathers with the above mentioned defects appear they should immediately be pulled out to permit new feathers to grow in which usually come in properly. Birds of the white varieties, especially, require shade at moulting time. The plumage will be whiter and freer from brassiness as a result.

If the yards are devoid of green stuff and lacking in natural shade, means should be adopted for providing the proper conditions. Shelters can be constructed that serve the purpose well. These may be constructed of any old material. A framework of lath or wire netting over which is laid branches or weeds affords ample protection. The ground underneath may be spaded up to afford a wallowing place. Sow rape or other green stuff in the yard.

The rations for the moulting fowls should not be the same as when feeding for eggs or meat. The rations should not be so balanced that eggs or flesh, instead of feathers, will be produced. Food of a heating or fattening nature should be eliminated almost entirely from the rations of the moulting fowls. Stimulating food, also, should be excluded, as egg production and moulting are both a strain and we should not permit both to be carried on at the same time, for harm will surely result.

Of the whole grains, wheat and oats are probably the best to feed at this time. A mash, consisting of equal parts of bran, corn meal and wheat middlings and about one-tenth of linseed meal is very beneficial in the growth of new feathers. When the mash is fed moist, buttermilk or skimmilk, when it can be procured at a reasonable price, should be used in mixing it together. Sunflower seeds afford a valuable addition to the rations of the moulting fowls. It should consist of about one-twenty-fifth part of the whole ration. Sunflower seeds tend to bring out the gloss in the plumage and therefore is valuable in feeding show birds.

The moulting period is a good time to weed out all the undesirable hens. The moulting process will show up all the hens that are lacking in vitality—that have not the constitutional vigor necessary for proper breeding condition and productiveness. All the hens that become excessively weakened during the moult should be culled out and put on the market. In any event, they should not be given a chance to enter the breeding pens. The hens that moult easily and with very little lowering of vitality are the ones to constitute your breeders another season.

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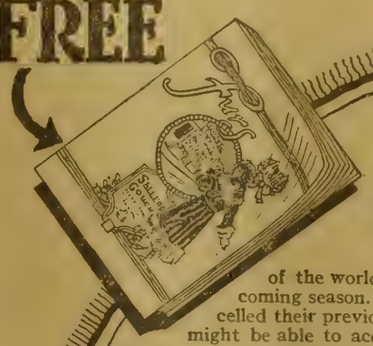

Valuable New
Fur Style Book
FREE

Again, with the return of winter your attention will be centered on the fur styles. You will want to know what styles are most favoured by the fashion leaders of the world. Some most entrancing styles have been created for this coming season. The master artists of London, Paris and New York have excelled their previous successes in the production of fur styles. In order that you might be able to acquaint yourself with the charming fur fashions they have conceived we have produced a valuable style guide. Our big Fur Book is crowded from cover to cover with photographs of hundreds of sumptuous furs, coats in Persian Lamb, Hudson Seal, etc., Muffs, Stoles and Cravats in many styles and many furs. The Book is a wonderful fashion guide. And not only that—it's the key to economy in fur-buying for it offers the beautiful fur pieces at surprisingly low prices. In whatever part of Canada you live you should not be without a copy of this book. It's yours for the asking. Don't delay—Write for your copy today—it's free.

1954—Cinnamon Wolf Neckpiece, full animal style; finished with head, paws and large full tail; made from selected skins; beautifully lined and finished **$25.00**

1351—Black Fox Neckpiece, made from best quality skins; two full skin animal style, finished with two heads, two tails and paws; beautifully lined and finished **$40.00**

675—Persian Lamb Paw Muff, pillow style, best linings and trimmings **$4.95**

445—Black Russian Muskrat Coat, made from fine quality full furred muskrat skins; large long shawl collar; deep cuffs; drop skin border around bottom; best quality plain all silk linings; 45 ins. long **$125.00**

677—Persian Lamb Paw Tie, made to button close up at neck. **$3.00**

Beautiful Black Fox Muff for $50

Here is an example of the wonderful money-saving opportunities presented to the people of Canada through the medium of our 1917-1918 Fur Book. This Black Fox Muff is No. 164 in the book. It is made in the much favored two full skin animal style. Charming trimmings of paws, large heads and tails make the muff particularly attractive. The muff is made from best quality Black Fox skins, is lined with soft silk and has an eiderdown bed. This muff will give you satisfaction. The price is marvelously low—only **$50.00**

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

IN THE WOODS

By Frederick G. Scott

This is God's house—the blue sky is the ceiling,
This wood the soft green carpet for His feet,
Those hills His stairs, down which the brooks come stealing
With baby laughter, making earth more sweet.

And here His friends come, clouds, and soft winds sighing,
And little birds whose throats pour forth their love,
And spring and summer, and the white snow lying
Pencilled with shadows of bare boughs above.

And here come sunbeams through the green leaves straying,
And shadows from the storm-clouds over drawn,
And warm, hushed nights, when Mother Earth is praying
So late that her moon-candle burns till dawn.

Sweet house of God, sweet earth, so full of pleasure,
I enter at thy gates in storm or calm;
And every sunbeam is a joy or pleasure,
And every cloud a solace and a balm.

FOURTH ANNUAL CONVENTION OF THE NEW BRUNSWICK WOMEN'S INSTITUTES, ASSEMBLY HALL, ABERDEEN SCHOOL, MONCTON, OCTOBER 2-3-4, 1917.

Tuesday Afternoon, October 2nd.

Presiding—Miss Hazel E. Winter.

2 p. m.—Registration of Delegates.

4.00 p. m.—"Retrospection", Supervisor.

4.30—Branch Reports.

Tuesday Evening.

Presiding—Mrs. N. W. Eveleigh, Sussex.

8.00 p. m.—Opening Exercises.

8.30—Address of Welcome, Mrs. Ferguson, President Red Cross Society, Moncton.

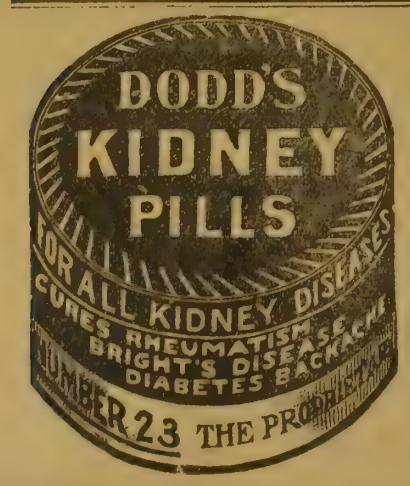
Reply to Address of Welcome, Mrs. C. J. Oshan, Hillsboro.

9.15—"A Woman's Duty towards the National Debt", Mrs. H. W. Parsons, Cochrane, Ontario.

Wednesday Morning, October 3rd

Presiding—Mrs. H. W. Parsons.

9.00-12.00—"Talk of nothing but business and dispatch that business quickly."



Wednesday Afternoon

2.00 p. m.—Inspection of Canned Exhibit, Assembly Hall, City Building, Main Street.

3.00—Auto ride around city and suburbs, through courtesy of the Retail Merchants' Association of Moncton.

5.00—Guests of the Mayor and City Council to "Supper" in the basement of the Methodist Church.

Wednesday Evening

Presiding—Mrs. Wm. L. McCain, Florenceville.

8.00—"Women's Institutes of Alberta", Miss Mary MacIsaac, Superintendent.

8.30—"Our Province Beautiful". (Illustrated.) Mr. Wm. McIntosh, Provincial Entomologist, St. John.

9.15—"Reconstruction after the War".

Thursday Morning, October 4th.

Presiding—Mrs. Geo. J. Dickson, Chatham.

9.00 a. m.—Branch Reports.

10.00—Question Box opened and discussed.

11.00—Five Minute Papers or Talks

1. Punctuality, Miss Celia Peck, Hopewell Hill.

2. Duties and Privileges of Institute Officers, Mrs. H. Coy, Fredericton.

3. Letting Our Head Save Our Heels, Mrs. H. McClary, Spring Hill.

4. Some Parliamentary Usages, Mrs. H. W. Parsons.

5. When and How to Display the Canadian Flag, Miss A. Fraser, Grand Falls.

6. The Girls' Institutes, Mrs. H. W. Parsons.

Thursday Afternoon

Presiding—Miss Anna May, Fredericton Junction.

2.00 p. m.—Branch Reports.

2.30—"Literature for Young People", Mrs. H. W. Reade, Stonehaven.

3.00—"Rural and Urban Sanitation", Dr. Roberts, M.L.A., St. John.

4.00—Announcement of Prize Winners in Canning Competition and Distribution of Standard Certificates.

Thursday Evening

8.00 p. m.—"The Connecting Links between Home and School", Mrs. James Porter, Andover.

8.30—"Cheering Our Soldiers".

9.00—"Child Conservation", (Illustrated). Mrs. H. W. Parsons.

LABOR-SAVING DEVICES FOR THE HOME

Miss Eadie's exhibit of "Labor-saving Devices for the Home" at the Women's Convention held in the Manitoba Agricultural College, February 16th, last, was most interesting.

Grouped around the big Assembly Hall were some twenty girls, students of the college, each exhibiting some one device to save labor. Here is a list of the articles shown:

1. Wooden spoon, for use in cooking acid foods; will not tarnish.

2. Spatulas, 2 sizes; these are soft flat knives used for scraping bowls, slipping pies, etc.

3. (a) Measuring cup. Each cup holds exactly 16 tablespoons.
(b) Regulation tablespoon.
(c) Regulation teaspoon.
Three teaspoons equal one tablespoon. Sixteen tablespoons equal one cup.

4. Home-made shelf—on hinge, so it will open and close. To be placed behind stove to hold extra pans, or be next sink to hold extra dishes.

Peaches

are the most valued treasure on the preserve shelf.

Lantic pure Cane Sugar, with its fine granulation, is best for all preserving.

10, 20 and 100-lb. sacks
2 and 5-lb. cartons

Send us Red Ball Trade-mark for free copies of our three new Cook Books.

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5. Blocks of wood to place under bed posts to raise bed higher during sickness. Makes the nursing easier.

6. Pully clothes line—Pulley costs 25c, wire line 25c.

7. Vacuum cleaner—Small hand size costs $7.00; sold by Reeves, Melford, Conn.

Cupboard for articles used in keeping the house clean. On a shelf where all bottles, such as furniture polish, metal polish, wood alcohol. Beneath was a place to hang each mop, broom, and dust pan. The carpet sweeper stood up on its side so as not to flatten the bristles; the broom hung upside down.

9. Design for farm woman's office. This contained a plain table, chair, waste paper basket. On the table stood a box containing 1,000 tickets. These can be bought anywhere for 75c. a thousand. On these cards were kept family accounts. One section was for recipes. Some kept count of linens, contents of pantry, things needed. In fact, anything the housewife wanted to remember. On the table also was a flat basket holding things of the week, like bills, receipts, letters to answer, etc. On a shelf above were three files to hold accounts, correspondence and clippings.

10. The next exhibit was a plan for an ideal kitchen. On one side of the room were the things used in preparation of a meal—ice box, then kitchen cabinet, then stove and table. Then came the dining room door. On the other side of the room were things used in clearing away the meal—china cabinet and kitchen sink, with its draining table each side, one for dirty dishes and one for clean.

11. Next came a vacuum sweeper—used like a carpet sweeper.

12. A white kitchen stool that screwed up and down to the required height. This one is sold by Shander and Fisher, and costs $5.40. An old piano stool would do as well. This is useful to sit on when ironing or peeling vegetables.

13. A schedule or plan for a day's work in the home. Although the day runs from seven a. m. to seven p. m., the work is so planned that the housekeeper has three hours off each afternoon. This makes a nine-hour work day. Long enough for any one.

14. Next came asbestos holders for lifting things off the stove.

15. A small towel on a loop; the loop is of tape, and slips over the apron belt at the right side; very useful when cooking to wipe the fingers on.

16. A laundry cupboard holding all things needful for wash day and ironing day.

17. Adjustable table. The top could be raised or lowered to suit the size of the worker.

18. Stainless steel knives. They sell for $9.00 per dozen.

19. Sliding larder; to send food down to the cellar to keep cool—a dumb waiter.

20. Porch larder, screened and holding deliveries or other food, cool and away from flies.

21. Fireless cooker, home made. Just a tight box, with a lid on a hinge and plenty of loose excelsior. The simplest device of them all. Just bring the food to the boiling point, cover with pot lid, and pack in the excelsior, with more excelsior packed down on top. Shut the lid, and food will keep on cooking.

22. A kitchen table on legs for use in cooking. Gather materials on it, mix them, put on the stove, then push table and dirty dishes over to the sink. It saves many steps. The top should be of glass or oilcloth.

23. Dinner wagon—table with shelf to carry dinner into dining room and then use to bring out the dirty dishes.

2 . Window larder—made of frame work of wood to fit an open window. Each side is covered with wire screen. One side opens with a door. Daily "left overs" are here kept cool and fly-proof.

Over in another building merchants were showing: Steam cookers, by which a whole meal can be cooked over one little lamp; manufacturer's fireless cookers that will roast meat or bake bread, cook pies or brown anythin; gasoline engines running in washing machines.

Before the exhibit closed, Miss Eadie read a most interesting paper on the value of these in the home.

THE BEN DAVIS APPLE

By Peter McArthur in 1916 Agricultural War Book.

To-day I was tricked into praising the Ben Davis and I culled my choicest adjectives in an attempt to do it justice. And now that I know it was the Ben Davis I was praising, I am not going to take back a word. Instead, I am going to add to them.

My change of heart is due to Charles M. MacFie, of Appin, Secretary of the lGencoe Apple Growers' Association. When I was calling on him he invited me to sample a new preserve his wife had been putting up. He went to the pantry and brought out a sealer filled with something faintly ambertinted and delicately translucent. It looked like citron or like especially successful pear preserves. While he was getting me a dish of it, my mouth watered in anticipation, for it certainly appealed to the eye. I

Spanking Doesn't Cure!

Don't think children can be cured of bed-wetting by spanking them. The trouble is constitutional, the child cannot help it. I will send **FREE** to any mother my successful home treatment, with full instructions. If your children trouble you in this way, send no money, but write me to-day. My treatment is highly recommended to adults troubled with urine difficulties by day or night. Address

Mrs. M. Summers
BOX 309 WINDSOR, Ontario

tasted it. Superb! I thought it was pear preserves, though it was better. Instead of the flat taste often noticed in pears, it had a faint sub-acid flavour that made it perfect.

When I had finished my eulogy he told me as gently as possible, so as to avoid sock, that what I was eating was preserved Ben Davis apple. It seems that this apple has been masquerading all these years. Instead of arousing contempt as an eating-apple, it should be ranking with the pear as a preserving fruit. He gave me a sample from another sealer which contained the same kind of preserves, except that the apples were not peeled. The choicest flavours are just beneath the skin and it was even better than the first, though not so attractive in appearance, and the skin was so tough that it had to be rejected. But it was fit for a king of the canners. I naturally asked Mrs. MacFie for the recipe, and here it is:

Peel and core the apples and cut each into about twelve slices. Place in a preserving kettle and add two cups of sugar for each quart of preserves. Cover with boiling water and then let the preserves boil in the covered kettle until the apples become transparent. Then seal away while hot.

SOME APPLE RECIPES

Brown Betty.—One cup of bread crumbs, 8 sliced apples, ½ cup of molasses, ½ cup of cold water; butter a baking dish, put a layer of crumbs, then a layer of apples, sprinkle with cinnamon and sugar and dot with bits of butter; repeat until the dish is full; insert a knife in several places and pour in the water and molasses. Set in a pan of hot water and bake for fortyfive minutes. Serve hot with cream or hard sauce.

Apple Catchup.—Quarter, pare and core 12 sour apples. Put in a saucepan, cover with water and let simmer until soft; nearly all the water should be evaporated; rub through a sieve and add the following to each quart of pulp; 1 cup of sugar, 1 teaspoon of cloves, 1 teaspoon of mustard, 2 teaspoons of cinnamon, and add 1 tablespoon of salt, 2 cups of vinegar, and 2 grated onions. Bring the catchup to a boil and let simmer gently for 1 hour. Bottle, cork and seal.

Apple Charlotte.—Soak ½ box of granulated gelatine in ½ cup of cold water for half an hour. Whip 1 pint of cream and set on ice; add ½ cup of powdered sugar, a tablespoon of lemon juice and 2 good sized apples, grated. Dissolve the gelatine over hot water and strain into the mixture; stir quickly and pour into a mould. Set on ice to chill, and serve.

Apple Marmalade.—Pare, core and cut into small pieces coarse-grained apples. Allow 1 lb. of sugar to each lb. of apples. Add enough water to dissolve the sugar, and boil until thick; add the apples and boil until tender; pass through colander; add the juice and grated rind of a lemon to every 4 lbs. of fruit. Boil again until thick and put up in jars or glasses. Cover with paraffin. Crab apple marmalade may be made in the same way with the lemon omitted. When cold, it should be cut like cream cheese.

A Sample Pair sent to Your Dealer on request
The Best is none too good for the Farmer
BOB LONG
UNION MADE
GLOVES and OVERALLS
Known from Coast to Coast
R.G. LONG & CO. LIMITED
TORONTO ONTARIO

THE CARE OF THE GROWING CHILD'S TEETH.

By the end of the second year, the baby should have his milk teeth complete and until the sixth or seventh year, when the permanent set will begin to appear, these teeth must serve all the purposes that the final set will serve later. Since this is the time the child is learning to chew his food, a process necessary not only for proper digestion but for the strengthening and developing of his jaws and for the proper growth of the permanent teeth, it is important to keep the first teeth in the best possible working order. The condition of the teeth is a fair index to the general health of the child.

Until the child is old enough to use a toothbrush himself, the mother should wash his teeth every day; but as early as possible the child should learn to care for his own teeth. If the teeth can not conveniently be cleaned after each meal, the mouth may at least be rinsed. Children should be taught that it is of special importance to wash the teeth and mouth after eating nuts, or any sweet, sticky or pastry food. The teeth should be carefully cleaned at bedtime since the fermentation of food particles left in the mouth, which leads to the decay of the teeth, proceeds more rapidly at night, when the mouth is still.

The child should be taught to brush the teeth from the gum downward or upward toward the cutting edge. When the teeth are brushed crosswise, the tendency is to push whatever is on them into the cracks and crevices of the teeth or under the edges of the gums. The inner surfaces of the teeth should also be brushed up and down, and the grinding surfaces should be scrubbed in all directions; after the scrubbing is finished, the mouth should be thoroughly rinsed with warm water.

Some hard food like a stalk of celery or part of a ripe juicy apple eaten at the end of a meal scours the surface of the teeth and leaves a fresh clean taste in the mouth.

Children should be taken regularly to a good dentist once or twice a year after the first set of teeth is complete. If cavities appear, they should be filled with soft fillings, and each tooth should be saved as long as possible. If the temporary molars are extracted befort the sixth year, molars come in, the latter will be apt to crowd forward into the space left vacant, and when the later teeth come they will be pushed out of their regular places, destroying the natural line of the mouth. The first molars furnish the grinding surfaces necessary to proper chewing of the food. If they fall out too soon, the child is hardly able to chew hard or tough food, and is likely to swallow such food in chunks.

The care of the child's first teeth is important also, because the health of the permanent set is largely dependent upon that of the first set. The

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1506. Driving Coat of Fine Muskrat. 45 inch length, beautifully designed. Skins are of fine quality; even, dark colors, carefully matched, and workmanship is faultless. Lined with heavy guaranteed brown satin—new style collar, which can be worn as a high Chin-chin or flat as in small illustration. Finished at waist line with half belt. In sizes 32 to 42, bust.
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Yours truly,
DR. JOS. AUG. SIROIS.

second teeth are much larger than the first, and consequently need more room in the gum. For necessary development the jaws must be given plenty of exercise. Consequently the child should have a mixed diet, including some hard food which he can not swallow without chewing. Toast, crusts, hard crackers, certain fruits like apples, salad, vegetables, and meats should provide the food elements needed for healthy teeth if the child is thriving.

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Windsor, Ont.

HOW TO MAKE APPLE CIDER VINEGAR

The season for making cider vinegar is approaching. See that your press is in good order. If you have no press, by all means order it in plenty of time to assure its being on hand when the apples are ready. A government bulletin gives the following excellent instructions for making high-class apple cider vinegar:

When possible, select such lots of apples as contain the most sugar. Do not use unripe fruit. The apples should be clean. All rotten fruit, moldy grass, sticks, and leaves should be removed. Wash the dirty apples but do not wash the clean ones, as you may wash away too much of the yeast.

Making the Cider

The grinder and press should be clean, if not make it so. Grind the apples as fine as possible and press slowly but firmly. Do not add water to the pomace with a view of obtaining a "second pressing," as such second pressing does not contain enough sugar to make good vinegar. Allow the freshly pressed cider to stand for one or two days in order that the sediment may settle out. When a large quantity of cider is made at one time it is a good plan to have a large receptacle into which the cider may be run for settling. On a small scale barrels may be used for the purpose. Keep the cider covered while settling. As soon as the cider is clear it is ready for the fermenting barrels.

Alcoholic Fermentation

Select, if possible, clean whisky or grain alcohol barrels; these will need but little cleaning, as the acohol they may hold does not interfere. All other barrels should be thoroughly cleaned with warm water and rinsed with scalding hot water. Use plenty of water. Do not sulphur them. Do not use barrels which have contained paint, oils, turpentine, wood or denatured alcohol, as it is impossible to clean them.

Place the clean barrels in the cellar or other places selected for the purpose and fill about three-quarters full of the settled cider. Do not add sugar, water, or any other substance. Do not add '.mother" or vinegar at this time.

The bungholes should not be closed, but should be loosely covered with a double thickness of cheese cloth tacked in place.

If the cider is made during a period of warm fall weather there will be no difficulty experienced by the failure of the fermentation to start promptly. On the other hand, if the cider is cold at the time it is placed in the barrels to ferment, a starter should be added to start the fermentation.

The starter may be made by withdrawing about three gallons of the cider from the barrel and warming this portion to a temperature of 85 to 90° F., and then keeping it in a warm room, protected from dust and dirt, until active fermentation has been going on for two or three days, at the end of which time it is returned to the barrel and mixed with the rest of the cider by shaking.

If there are any barrels of cider made earlier in the season, in which fermentation started promptly and which are still in active fermentation, five gallons from one of these zarrels may be used as a starter.

As soon as fermentation has started the barrels will need no further attention except to see that they do not get too cold until fermentation is completed. This will be in about six months.

Acetic Fermentation

When the alcoholic fermentation is completed, which may be told by the fact that the bubbles of gas are no longer given off (told by placing the ear to the bunghole; the liquid being still), the now hard cider should be carefully drawn off into clean barrels so as not to disturb the sediment. Fill the barrels only about three-quarters full. Add to each barrel from one to two gallons of good finished vinegar containing "mother" and keep as near a temperature of 65 to 75° F. as is possible.

Block the barrels so that they will remain perfectly still. The bungholes should be up and open, but covered with a small piece of well-painted screen to keep out the flies.

Allow the barrels to remain until 4.5 to 5 per cent of acid is produced. This will require from 12 to 18 months.

Aging

Draw off the vinegar and place in barrels made sweet and clean by a thorough washing and scalding. Fill the barrels full, drive in the bung, and place the barrels in a cool cellar for two or three months to age.

The vinegar is then ready for use or for the market.

Causes of Failure

The principal causes of faiulre are summed in the following don'ts:

Don't use green apples; they are deficient in sugar.

Don't use dirty or decayed apples; they contain foreign ferments.

Don't add water; this constitutes adulteration.

Don't use any but perfectly clean barrels.

Don't add vinegar or "mother" until the alcoholic fermentation is complete; vinegar or "mother" interferes with alcoholic fermentation.

Don't try to conduct the alcoholic fermentation below 50° F.

Don't let the temperature of the cider go below 50° F. until the alcoholic fermentation is complete.

Don't fill barrels more than three-quarters full.

Don't sell vinegar without labeling it.

Don't forget that cleanliness is essential to success.

Don't allow vinegar to come in contact with any metal.

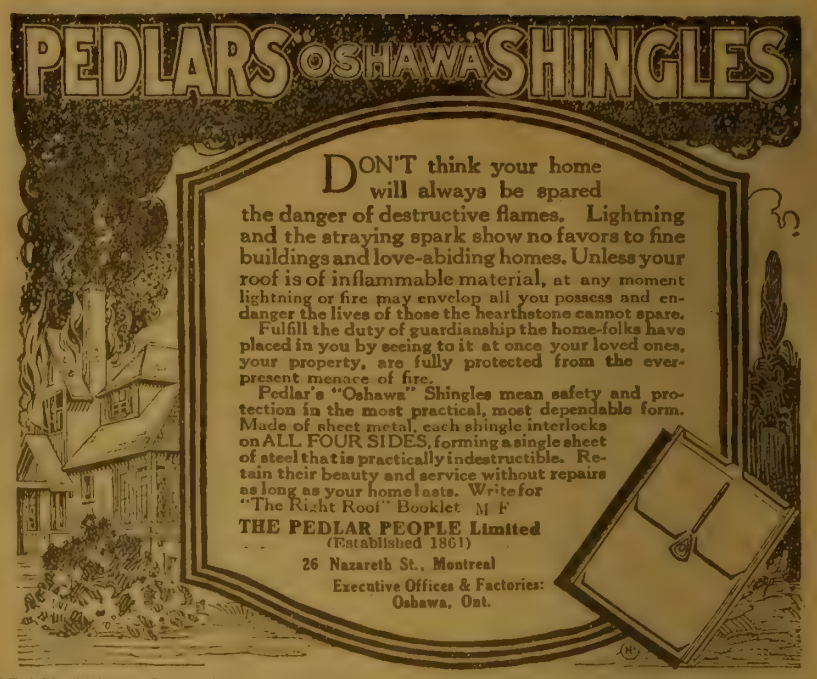
While the directions here given may seem rather lengthly, they are sure to produce a vinegar of standard strength and of good quality. It is true that some of the details of the method may be disregarded, but the quality of the product may suff as a result.

TRAINING THE CHILD IN TRUTHFULNESS

Anyone who has not lived with an observant, clear-minded child has missed an important part of moral education. When a child is quite truthful, when he has not been frightened into dishonesty for his own protection, nor taught to think it the usual way of the world by careless elders, the slightest deviation from the straight line of truth appears as a distortion in the mirror of his mind. When we view ourselves through those candid eyes we are surprised to find how many of our customary actions will not stand the test. If it is a mother that makes this discovery she is troubled. She knows that dishonesty in its various forms is the curse of the modern world, and she hopes that her little ones will grow up to be hearers of truth. How then, shall she square her conduct to their simple but inflexible standards? If she does not justify herself in their eyes they will think that falsehood cannot be always and entirely wrong.

"Mother," said a wee girl, who was watching her mother dress in the evening, "I shouldn't think you would feel like going out to-night."

"Why not, dearie?"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"When auntie was here this afternoon and wanted you to go to the lecture, you were afraid the cold would make your neuralgia worse."

A mother refused an invitation to what she thought would be a prosy affair, giving as her "excuse" that she couldn't leave the children in the evening. A small son listened with absorbed interest to the polite regrets expressed on both sides. When the visitor was gone, he said: "If you wanted to go so much, mamma, why didn't you have cousin Laura stay with us, like you do when you and papa go to the concert?"

Some of the children's most puzzling questions are about the disagreeable visitors. Why do we make them welcome or ask them to come again? Fortunately this matter can be explained. The most tiresome visitor means a kindness when she comes to see friends, and must be received in a kindly spirit.

From the beginning of the child's training, kindness must be made the foundation for politeness. Thus the child may be taught tact. It is certainly necessary while teaching our children to tell nothing but the truth, to remind them that the whole truth is not always needful. But kindness will not explain many of our "polite" lies. When the child has heard us say, in the privacy of the family, that Miss So and So's singing was wretched and then afterwards stand by while we assure the singer that we enjoyed her singing so much, his private opinion of us is not likely to be flattering.

More blamable still are the cases where deception is practiced in the home; the questionable book slipped out of sight in the virtuous mending oasket, the expenditures concealed, the forbidden visits hidden. These things seem to make an atmosphere of which the child becomes conscious.

Even varying treatment of the child's own misdeeds is noted. How many have heard of the boy who came to the table with tousled hair and when his mother said: "You know I never allow you to come to dinner without brushing your hair," replied: "Yes, you did once, mother."

Perhaps the limitations of humanity will not permit such unvariableness as a child demands, but to look at ourselves in the mirror of the child's mind will help us toward perfect truthfulness.

THE GREATEST ERROR IN FEEDING THE DAIRY COW IS LACK OF LIBERALITY

(Continued from page 568)

less roughage and less concentrates in the production of milk. Deductively, at least, these figures show the value of breeding and the generalization may be made that with increasing productivity and values, the relative percentage of expenditure for feeds, prices remaining the same, decreases, while depreciation, shelter and interest increases.

Dairymen have been more interested in the prices of their products than in the cost of production, apparently forgetful of the fact that profits accrue to the business dairyman as they do to the manufacturer. First, from a price for his product sufficient to more than cover the average cost of production; secondly, from cheapening the cost of production sufficiently to obtain a profit. The latter method offers the greater opportunity to the dairyman with a well orgasized business, one who will study and apply economics to the industry.

The time of the year during which the major part of the milk is produced may materially affect the cost of production as well as income from the dairy. Milk can be produced much more economically during the winter when stall feeding is necessary. There are other items to be taken into consideration. Labor conditions in summer often make it difficult to properly care for the stock; during the winter, stock, even though dry, must be fed and cared for; a small amount of feed and care additional to that required for maintenance may prove profitable, and, lastly, prices for dairy products are so much higher in winter than in summer that the total income per cow is larger and net profits more satisfactory, provided the milk flow is produced during the winter months. The strongest argument in favor of winter dairying is its adoption by the most capable dairymen and the constant tendency in the dairy sections towards maximum production during the winter months.

The cost of feed and labor, the cost of the cow, and all other items of cost of maintenance determine the quantity of the product a cow should yield in order to give the owner a profit. And as the cost of feed, labor and the investment per cow increases or decreases, in such proportion must the efficiency of the herd increase, price of product remaining the same, to give a profit to the owner.

The Worth of a Cow

In order that the cow may be profitable, cow and investment should bear a certain and definite relationship to the product that must be obtained. The question frequently arises: "What is a cow worth that gives a certain quantity of milk, and how much milk must a cow of a certain value give before she makes a profit for the owner?" This question may be answered definitely, providing the cost of feeding, care, etc., is known, and the average price received for the product can be ascertained. It can only be answered exactly from a productive standpoint. It is imperative that cows of high values, to be pro-

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fitable, should be more productive than the average. From a productive standpoint, a farmer can not afford to pay $80 to $100 for a cow unless she will produce 5,500 to 5,900 pounds of milk per year. While the value of the calf and the manure may enter into the consideration of ordinary farmers, yet the dairy farmer, who gains eighty per cent. of his income from dairy business, must consider only the productive capacity as related to the annual profits.

One of the most difficult tasks of farm managers is to keep all capital employed in such a way as to produce maximum profits. The investment of money in live stock which do not bring a return commensurate with the cost of maintenance and capital invested is a common source of loss. It is easy to pick out a herd of cows at $70, or over per head, that will not give an adequate return for the cost. The principal cause for such loss is that prices have been paid for the stock on the basis of gross income without regard to maintenance cost.

The Investment in Dairying

The same economic forces apply to the investment of capital in cows as to its investment in lands—that is, as either increase in value or are purchased at high prices, they must, to be profitable, become more productive because of gross increase in interest and depreciation charges.

Both interest and depreciation are very high when cows are purchased at $100 per head or over. The annual charges are then $15.58 or more per year, as compared to $4.35 for the $40 cow. The average cow producing 4,000 pounds of milk annually would, under such circumstances be kept at a loss of more than $5 per year, and would not only be valueless from a productive standpoint, but would represent a liability to the farm, rather than an asset, unless the value of the manure and of the calf were considered sufficient to offset the loss occasioned by her use.

With an average annual return of $1.20 per hundred pounds, or twenty-seven cents for butter-fat, and with food and labor requirements at the prices determined, a cow has no value, based on productivity, until her annual product is between 4,500 and 5,000 pounds of milk. When 5,000 pounds of milk are produced annually a cow has a value of $25. That is, the difference between the sum received for her product and the cost of obtaining it capitalized permits of a valuation of $25 on which interest must be earned and a sufficient sum set aside to cover depreciation. As the annual product increases over 5,000 pounds, the productive value of the cow increases very rapidly. When 6,000 pounds are produced annually, her value is more than two and a half times that of a cow producing 5,000 pounds annually. The cow giving 10,000 pounds of milk is worth $230 as a producer. Her breeding value is to be added onto this sum. Obviously, a cow giving 10,000 pounds of milk annually has a higher value than that based upon her productivity, for dairymen everywhere desire to build herds on just such stock, and demands for young stock would swamp any dairy farmer.

No better illustration can be made of the value of productive cows than the comparison between the cow giving 10,000 pounds and the one giving 4,000 pounds. The former represents a capital investment that is extremely productive, that pays for all she receives and gives an ample return and protection on her own value; the latter nets a loss of more than $5 per year.

Placing the dairy farm upon a profitable basis means putting brains and energy into the business; making it a business, just like manufacturing any other marketable product, and making it at the lowest possible cost with the most profitable stock.

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When the heart becomes affected, there ensues a feeling of a choking sensation, a shortness of breath, palpitation, throbbing, smothering sensation, and dizziness and a weak, sinking, all-gone feeling of oppression and anxiety.

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HOW TO HANDLE LAND AFTER HAY CROP IS REMOVED

August and September are months when the dairyman is pretty anxious about the herd. The luxuriant pastures of May and June are no longer available and many have made no provision for the summer months, when the days are hot and the flies are bad. The cows are falling off rapidly in their milk flow and the only thing in sight is the field of young clover and the green oat crop just nicely headed out and looking good for fifty, sixty or more bushels to the acre. But something must be done for the cows or they will soon be dry and thin and the milk revenue will be beyond control. To relieve the situation which shall be used, the young clover, just nicely started on the journey of its second growth, or cuttings from the promising field of oats. The farmer knows that the clover is too young to get the best results from pasturing it, but he hasn't the nerve to touch the beautiful oat crop, and so the young clover is sacrificed. Sacrificed? Yes, because the loss is too great to be viewed in any other light, considering the small amount of actual fodder that will be obtained from it, as compared with that which could reasonably be expected from a properly treated field; and so all over the country field after field of promising clover is being largely ruined before the tender plant is strong enough to stand the trampling of cattle and before the growth is far enough advanced to yield a profitable return.

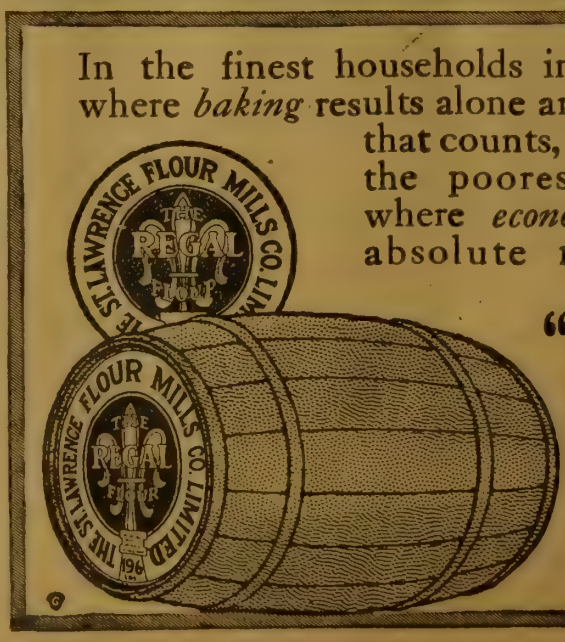
In almost every case it will be found much better to feed from the oat field or from some other source for a few days and let the clover stand until it gets a foot high. It will then have more substance, will not be so easily broken or crushed and will last the cows much longer than when pastured soon after the hay crop is removed. Rather than pasture the clover field too soon it will be economy to feed hay and grain for two weeks or more in order to give the second growth a chance to get a good start.

It is the practice of many farmers not only to allow the stock on to the land while the second crop is too young, but also to continue the cropping too continuously and too late in the season. When a clover crop is eaten down so that the stock has to bite close to the ground and roots, they should be kept off until the field is sufficiently grown again to provide a good yield. The continual trampling of stock has a tendency to break and damage the crowns of the plant and reduce their vigor. By keeping off the land, excepting when the plant is large and strong enough to produce a good yield, the vitality will be conserved and when a favorable time comes it will then be in a condition to grow luxuriantly.

Late pasturing of the clover field in the fall months should also be discouraged. The plant should be able to secure a little covering to protect it from the winter frost and keep the ground covered so that it will not freeze and thaw so readily in the spring. Again the ground is likely to be soft in the fall and if the stock is allowed to roam over the fields they will do a lot of damage to the land by puddling as well as to the plants by punching them into the earth. Good pastures are a fine thing and worth taking care of, but the treatment that many fields get, after the hay si taken off, is not at all favorable to a good stand next year either for hay or pasture.

Old meadows that are no longer profitable for the hay crop, and there

In the finest households in the land where *baking* results alone are *the* thing that counts, and also in the poorest families where *economy* is an absolute necessity,



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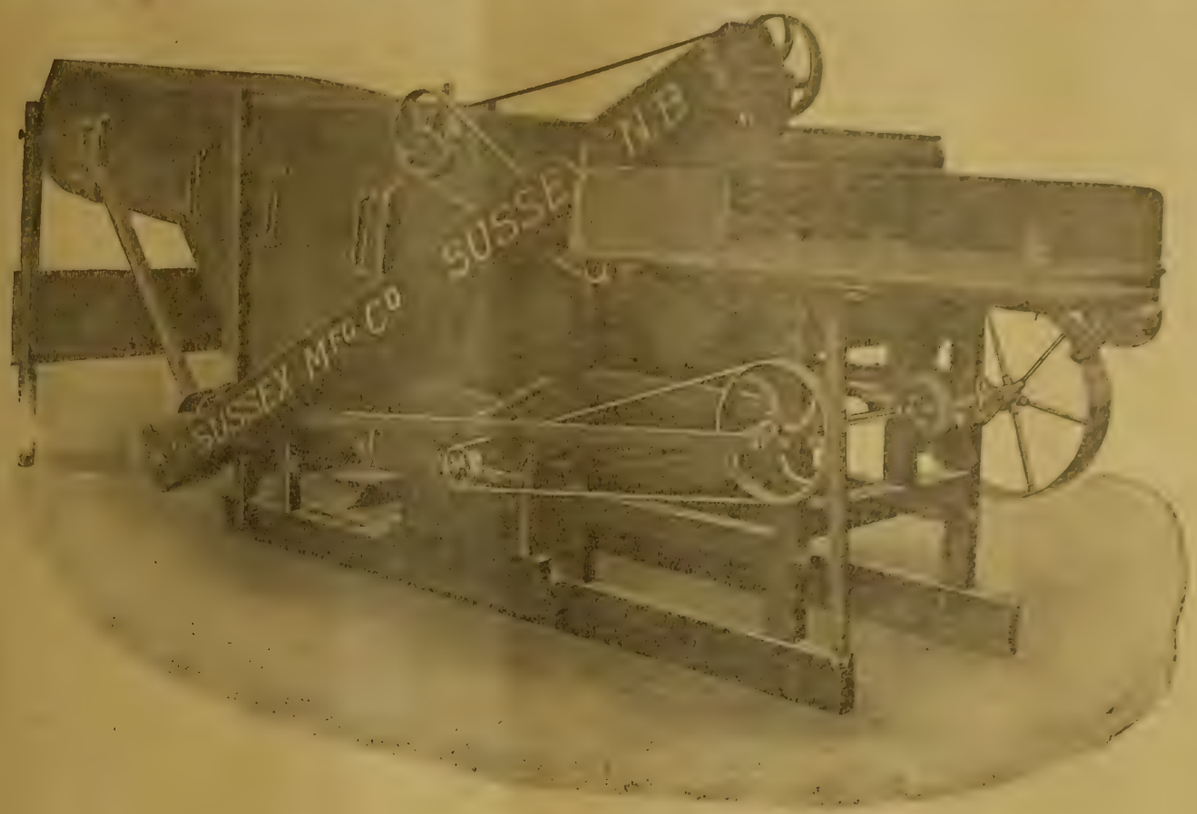
Stands First

SUSSEX LITTLE GIANT THRESHERS

Save Every Bushel--The Call to Every Canadian Farmer



No. 1 or No. 2 with Tailings Elevator

Grain in the head is not grain in the sack. Close separation is possible only with the proper machine. Sussex Little Giant Threshers have played a part in every harvest for two generations and they will be doing their "bit" on thousands of farms this season. Made in four sizes. Supplied with or without any one or all the labor saving attachments. Every machine supplied with main drive belt and full equipment. Write us to-day. **It will pay you.**

THE USSEX MANUFACTURING CO., LTD.

SUSSEX, - - New Brunswick

are many of them, should be plowed light as soon after the hay is off. They will afford no pasture worth while if left until late in the fall, and the time had better be spent in killing weeds and putting the land in good condition for a crop next season. Very shallow plowing will be best for the first operation both for killing weeds and rotting the sod. If the weather is dry this may be allowed to lie and dry out before subsequent cultivation takes place, when it should be thoroughly cut up with a heavy disc and cultivation be continued at intervals until late in the autumn when it should be plowed, and deeper, if intended for a spring crop. If potatoes are to be planted it will be best to apply manure in the fall if possible and work it into the land, as fresh manure is likely to produce scab.

The pasturing of land by stock is too often a haphazard affair, rather than a well planned and crefully carried out progrmme. This is a very poor policy indeed, for land properly prepared and used for this purpose can be made to conserve the interests of the farm as well as any other part if due consideration is given to it and a careful plan laid out and religiously followed.

THE N. B. FARMERS EXCURSION TO THE EXPERIMENTAL STATION

(Continued from page 566)

more men join together and fulfill certain requirements.

The dairy industry is being revived in the province, particular emphasis being laid on quality rather than on quantity.

Mr. Tweeddale also explained the County Agent or District Representative plan, which he and his Deputy, Mr. Reek, are putting into operation in the province. The system has proved a boon to the farmers of other parts of Canada and the United States, and good results are anticipated from the inauguration of this system in the Province of New Brunswick.

The sheep industry for many years on the decline in New Brunswick, is again beginning to come into its own. The large number of inquiries for pure bred ewes and rams, and high grade ewes, that is being received by the Provincial Live Stock Superintendent, Thos. Hetherington, is a sure indication that in a year or two, numerous flocks of sheep will graze the thousands of acres of New Brunswick soil, to which at present time the golden hoof is a stranger.

Prof. G. C. Cunningham, the Provincial Plant Pathologist, announced that he would be pleased to meet

Concrete Machinery for Farm Use

(MADE IN CANADA.)

Our HAND CEMENT MIXER latest model PAYS FOR ITSELF IN 7 DAYS. WRITE FOR OUR SPECIAL OFFER. Saves you much hard labor and money. Also Brick, Block, Tile Machines, Crushers, Rolls, Power Mixers, etc. New and Second Hand Gas. Engines.

Ask for Catalogue A

WETTLAUFER BROS., LTD., Toronto, Ont
DOUGLAS FULLERTON CO., Dartmouth, N.S.

PULVERIZED LIMESTONE

SWEETENS THE LAND AND PRODUCES HEAVY CROPS

The demand last season for our "Clairmont" Brand Pulverized Limestone was so heavy we were unable to fill a great many orders. We expect a very heavy business for 1918 and would advise all booking now and getting their supply early. Our Limestone is showing wonderful results.

—Manufactured by—

C. H. PETERS SONS, LTD., St. John, N.B.

Works at TORRYBURN, on C. G. R.

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T D. Blaikie, Great Village, N S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Kents Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Shorthorn Cattle !

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Single Comb White Leghorns

A few choice exhibition Cockerels, ready for fall and winter fairs, for sale. Write for prices.

ERNEST CRAZE,
"Rosewarne Poultry Farm,"
Port Williams, N. S.

BULL CALF FOR SALE !

Born June 7th

Grandson of schurley Sir Posch with 21 pound bucking more white than black. A dandy at $45 F. O. B. any station in N. B. with papers.

WALTER PAYNE.
Lake Edward, N. B.

Fir Shade Farm Dual-Purpose Shorthorns !

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

High Class Jersey Bull

We offer for sale a very choice youug bull, fit for service. Sired by "Romancer," a son of the great "Ben Blood of Dentonia." His dam was by Fereor (Imp.) This is an excellent animal and fit to head any herd in the country, Also a grade cow 3-4 Jersey, by "Romancer," 4 years old.

ORCHARD HILL FARM
Browns Flats, - - N. B.

FOR SALE

A handsome, well-grown Guernsey bull. Sire purchased from the Experimental Farm, Ottawa; dam of equally good breeding, and a heavy producer. Will be sold reasonable. Full particulars on inquiry.

SARAH E. MOSES SMITH,
Woodwards Cove, - - - N. B.

Concrete Machinery for Farm Use

(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself.

Also Crushers, Brick Block, Tile Machines Mixers, etc. New and Second Hand Gas. Engines Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO Dartmouth, N.S

farmers interested in potato growing in the fields, where he is conducting some experiments. What he would like to tell the farmers, could be explained much better in the fields, where they would have the opportunity of seeing for themselves the necessity for controlling potato diseases and using the best seed available.

B. Leslie Emslie, Fertilizer expert for the Dominion Government was present, and conducted a party of farmers interested in fertilizer tests, through the fields where such tests are being conducted.

Seth Jones, Provincial Poultry Superintendent, was kept busy explaining poultry matters in the poultry yards.

W. S. Blair, Superintendent of the Horticultural Station, Kentville, N. S., conducted a party of horticulturists through the new orchards and answered question in regard to fruit growing.

The Provincial Live Stock Superintendent, Thos. Hetherington, gave an excellent talk and demonstration on the points to look for in beef and dairy cattle. With a number of pure bred and grade animals of both classes, he was able to readily show and contrast the various points under discussion.

Mr. Hetherington is a New Brunswick boy, who made a good record in his college career, and who has accepted the important position he now holds, determined to put the best that is in him into his work. He made his first appearance before a New Brunswick farmers' audience on Labor Day. His practical method of handling his subject, gave him a well merited status in the opinion of the farmers of the province.

The farmers' field day afforded a pleasant day's outing for the farmers and their families. They will also be in a position to better interpret the published reports, when they reach them, of the final conclusions deducted from the experiments now being conducted on the farm. Inadvertedly they will strive to follow some of the best and most applicable methods and thus the Experimental Station will be accomplishing the aims for which it was organized.

GOOD GRANARY ON EVERY FARM IS VERY ESSENTIAL

There are many farms without a good granary. In these days of high priced cereals and products of all kinds one should reduce the wastes of the farm to the very lowest possible point by providing a suitable place to store the harvest so that the ravages of mice and rats can be entirely controlled and every pound of grain conserved as food for the use of man and beast. A food controller has recently been appointed by the Canadian Government for the purpose of saving all the cereals and meat products possible and in every way to cut out all waste of farm produce. One of the biggest losses on the farm is caused by the destruction of grain by these rodents. Comparatively few farmers are free from loss through this cause, and many are great losers. The aggregate yearly amount of leakage from the grain-bin is very great and with many, no doubt, more than equal to an amount sufficient to furnish protection against this class of vermin.

Granaries that are built in a barn may be rendered proof against rats and mice by covering them on the outside with metal such as galvanized iron. Second hand stuff may sometimes be secured that will answer the purpose just as well as new material. It is very difficult to build a granary entirely of wood, in a barn, that will effectually keep out the rats and mice. It is claimed by some that rats and mice will go through boards made of hemlock but unless these are very thick the pests will get in. It is better to use metal and make a sure job than take any chances with wood only.

Where there is not sufficient room in a barn for a good granary one may be built at some convenient point outside. When this is done it may be so built that rats or mice cannot get into it. To do this the building should be placed two or three feet above the ground, built on a cement wall or heavy posts. If on the former a strip of galvanized iron should be laid on top of the wall and project ver at least four inches on either sides, and turn down a couple of inches which will effectually prevent vermin of this class from securing a foothold or gaining an entrance into the building.

Where the building is set on large posts an ordinary shallow tin pan, large enough to project well over the post may be turned upside down over them which will effectually prevent the rodents from getting in from beneath.

But the building must be completely isolated from other structures, even fences, or steps up into it from the ground or an entrance will be ecected from these sources.

Combination granaries have been built on some farms in connection with pig pens, but ordinarily this plan is not to be recommended unless especially for feeding swine as the upper story, which is usually used for the grain is not convenient for that purpose, unless built on a side hill and any dampness or smell from the pen is not conducive to best results in keeping the grain.

So far as the choice of material is concerned in the building of a granary there is no doubt but that wood is best if protected by a metal covering. Cement would cause deposits of moisture now and then when grain was "sweating" which would be favorable to the development of mould.

The difference between the cost of an all round satisfactory granary and an inferior is so small as to be an insignificant factor when compared with the advantages of the former, that one should not hesitate to secure the former under all circumstances.

LIGHTNING RODS PROTECT BUILDINGS

Investigations made by various agricultural stations and by insurance companies show that lightning rods really do protect. In one of these investigations it was shown that out of 7000 unrodded farm buildings 37 were struck bf lightning, and out of 7000 rodded buildings but two were struck. One fire insurance company paid out, in three years, only $32 in lightning losses on rodded buildings. In every loss reported a careful examination proved that defects in the lightning-rod equipment existed which accounted for the lack of protection.

Eureka Potato Digger

Gets the Potatoes and separates where other diggers cannot

A strong statement, but an actual experience many times, saving growers more than the cost of the Digger. Ask us for the proof.

The Eureka elevator and duplex shaker provide more separation than other diggers. Large wheels and main gears supply ample power. Mostly malleable and steel, avoiding frequent breakage and lost time. Growers report digging 80 or more acres without repairs. High clearance over shovel prevents weeds and vines bunching. Has vine-turner attachment.

6-ft. and 7-ft. sizes; several styles.

Write for catalog

FROST & WOOD CO., Ltd., St. John, N. B.

EUREKA MOWER CO., Box 1018, Utica, N.Y.

SHOW STOCK SALE!

"Minnie Vale of Victoria," another four year old daughter of "Ida Rooker 2nd Vale," has just finished a R.O.P. record of 15.784 lbs. milk and 5.61 lbs. fat, making two daughters in R.O.M. and R.O.P., all showing a much higher milk and fat record than dams. He is also a breeder of show type as proved by his continual winnings in the (get of sire class) at all Maritime Shows.

We can sell a few grand young Bulls by him, different ages, also expect to have a show lot of P. B. and grade females at Halifax, several choice ones to freshen then.

W. M. LEA,
"RIVERSIDE FARM," VICTORIA, P.E.I.

Two Cents a Word.

This department is one of the most valuable in the MARITIME FARMER. At a cost of only 2 cents a word, you can advertise anything you wish to buy, sell or exchange. The aderess must be counted as part of the advertisement and each initial or a number counts as one word. Cash must accompany each order and advertisement must have address on, as we cannot forward replies sent to this office. Copy must be received not later than Friday before the date of issue which will always be found on the editorial page of the proceeding issle. No black faced type or display of any kind will be allowed under this head, thus making a small add as noticeable as a large one. The rate for this column is 2 cents a word, each insertion. MARITIME FARMER, Sussex, N. B.

CAULIFLOWERS AND PICKLING ONIONS for sale.—H. E. D. GOLDING, Sussex, N. B.

WANTED—Experienced herdsman. Permanent position. Free house, milk and vegetables. $50.00 per month. Church, school and large town near. Apply HERDSMAN, care Maritime Farmer.

EXCHANGE POSTCARDS with our members, ladies free, gentlemen 25c. Try it three months, you'll enjoy it. Everybody welcome.—TULIP EXCHANGE, Box 47, Kincardine, Ontario, Can.

LADIES WANTED to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for particulars.—NATIONAL MANUFACTURING CO., Montreal.

WANTED—An experienced farmer. Must be a good milker and capable of taking charge of herd in absence of employer. Free house with running water. $60.00 a month. School, Church and town near. Apply FARMER, care of Maritime Farmer.

CLEARING SALE OF AYRSHIRE CATTLE

Having decided to stop dairying, I offer my entire herd of pure bred Ayrshires at private sale. Cows fresh and due to freshen this fall. Young stock from 2 year old heifers down to calves. Also two bulls. I have been testing cows in the R. O. P. test for four years. Any or all of this stock can be had at a very reasonable price if taken within the next 60 days. Write for particulars.

T. J. HAWKINS,
Stewiacke, - - Col. Co., N. S.

BUTTER PARCHMENT

Maritime Farmer Office

THE REGULAR COURSE

AT THE

College of Agriculture Truro, - Nova Scotia

Commences October 31st Next

THIS COURSE offers an opportunity to study the fundamental principles of INCREASED PRODUCTION which, second only to fighting, is the Paramount Need of Canada today and which will be of preeminently first importance after the war. The young farmer who is not in a position to go to the war should not miss the opportunity of Preparation which the course at Truro offers.

Tuition free to Students from all the Provinces of Canada. Write for Calendar to

M. CUMMING, Principal, TRURO, Nova Scotia

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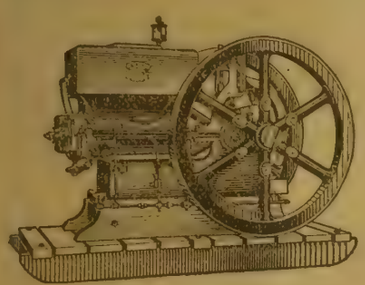
Stationary, Mounted and Traction

We manufacture the most complete line of Engines on the market. Send for Catalogues.



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Engine

is the best that money can buy.

We manuracture complete lines of

Wind Mills, Grain Grinders, Steel Pole and Wood Saw Frames, Pumps, Tanks, Water Boxes, Concrete Mixers, etc.

Agents Wanted in Unrepresented Territory

GOOLD, SHAPELY & MUIR CO., LTD., BRANTFORD, ONT.

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We Prepay all postage to your home address

1000 1 lb. Printed, - -	$4.00
500 1 lb. Printed, - -	$3.00
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500 2 lb. Choice Dairy Butter,	$2.00
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Parchment marked "Choice Dairy Butter" 250 sheets, 75c; 500 Sheets for $1.45, Postage Paid.

The Maritime Farmer

SUSSEX, N. B.

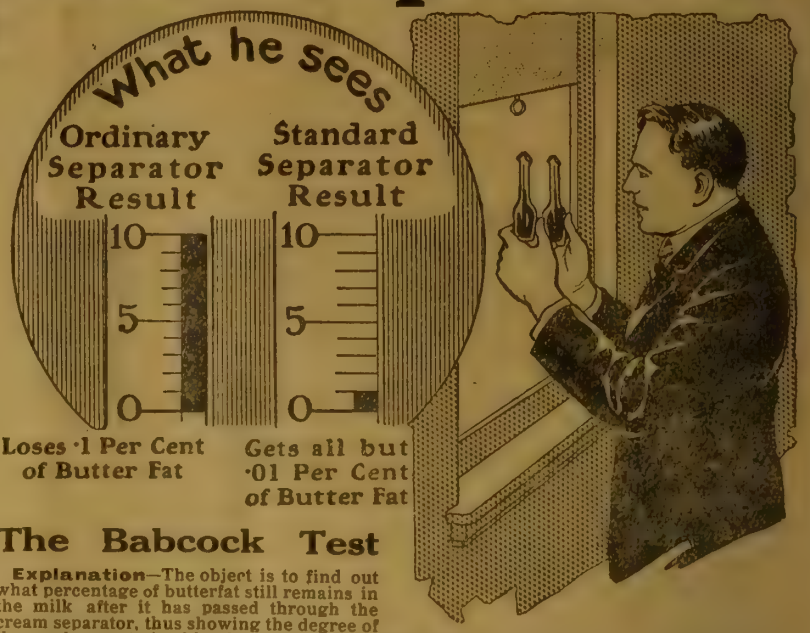
Can Your Cream Separator Meet this Test?

"Are you keeping cows, or are the cows keeping you? The only way to be sure is to weigh and test"—
Farmer's Advocate, April 5, 1917.

The Babcock Test measures accurately the percentage of butter-fat still remaining in the milk after it passes through a cream-separator. In the picture we show two Babcock results as indicated by the measurement tube of the Babcock Testing bottle. The long black column on the first tube in the circle shows the result obtained by testing the milk skimmed by ordinary separators; it shows a loss of .1 per cent butter-fat. The small black mark on the other tube shown represents the extra small loss obtained by the Standard's close skimming which gets all but .01 percent of the butter-fat. In other words, the Standard gets all but one-tenth of butter-fat per 1000 pounds of milk skimmed, while other machines lose a whole pound.

The comparison indicates a clear gain of 9/10 of a pound of butter-fat on every 1000 pounds of milk you skim—if you use the

Standard



The Babcock Test

Explanation—The object is to find out what percentage of butterfat still remains in the milk after it has passed through the cream separator, thus showing the degree of thoroughness attained by the machine. In the circle above we show two enlarged sections of the graduated tubes on the Babcock testing bottles. The black marks show the amount of butter-fat left in the milk after skimming. To find the number of parts of butter-fat remaining in every hundred parts of milk tested, the butter-fat musi be separated from the milk and measured. That is what tbe Babcock test does. A special bottle with a lengthened neck is used. On the neck are marks which tell the percentages. The experimenter wants to get the butter-fat separated and pushed up into the neck where its measurement can be seen By a simple process he does this, and he then knows exactly how well the skimming has been done in the separator. The Babcock test is used by our Government Dairy Schools and in many other countries beside Canada. Standard Cream Separators are tested by this scientific method before they leave our factory.

This saving of cream by the Standard is well worth while for it means an extra profit of about half a pound of butter-fat per cow per week. Multiply this ½ pound saved by the number of cows in your herd, and ask yourself, "Can I afford to lose this extra profit? Will it not pay me to own a Standard?"

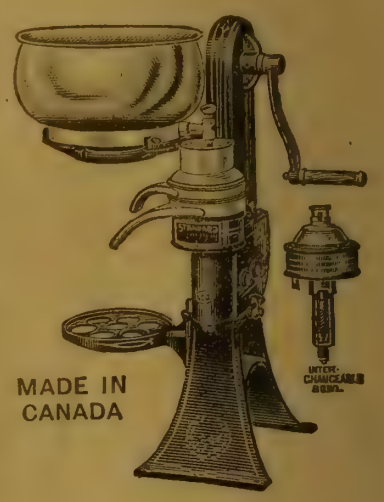
Before the Standard goes to you, it must prove its close skimming by meeting the Babcock Tests made by our experts in our own factory. These tests have been confirmed by independent Babcock tests made at the Government Dairy Schools, Ottawa. They all prove that the Standard out-skims other machines.

Do you know how closely your separator skims? You can find out by sending a sample of skimmed milk from your machine to the Government Dairy Schools. Compare the result with the Standard's proven record. It may pay you to discard your old machine for the close-skimming Standard. With a certain number of cows the Standard pays for itself in cream saved within the time you pay for it on our easy payment plan and it will pay you to operate a Standard even if you have only two cows.

The Standard's exclusive curved wing center piece eliminates whipping in the distribution of the whole milk to the discs. This means firm butter. The Standard not only saves cream, but it gives better quality results. If you want sweet, firm, high-grade butter you can have it by using a Standard.

The Standard is entirely made and designed in Canada by Canadians.

Send for interesting literature describing the Standard's low supply can, interchangeable capacity feature, self-oiling system, etc. Tear out and mail this coupon today.



CUT OUT AND MAIL THIS COUPON TODAY

Renfrew Machinery Co., Limited, Renfrew, Ont.
Please send free literature about Standard Cream Separator. Number of cows in our herd is .....
Average milk production is.....
Name .....
P. O.....
County .....

The Renfrew Machinery Co., Limited

Head Office and Works: Renfrew, Ontario

Eastern Branch Sussex, N. B.

AGENCIES ALMOST EVERYWHERE IN CANADA

EASY JELLY MAKING

It is as easy to make good jelly as it is to make good apple sauce, only that it takes a few moments longer. If you follow exactly the following rule, you can make jelly of a delicious fineness and color and taste. When you cook the fruit use just a little water, because the water has to be cooked out; the more you put in the more you will have to cook out. Use your over-ripe mussy fruit for jam, but use only the best for jelly.

Thirty-five Minute Jelly.

With many fruits you can make jelly in 35 minutes from the time you put the fruit on the stove until you have the liquid in the glasses. It is easier to do it slower; let the fruit heat slowly then boil briskly until very soft. Hard boiling makes fruit go to pieces and that is what you want. The less time spent in cooking the fruit, the better the flavor of the jelly. Now for the rule.

GRAPES, APPLES, CURRANTS, QUINCES, GREEN GRAPES, GREENISH PLUMS, etc. Fix for the jelly by having them clean. You need never peel anything for jelly as the peel will make the liquid "jell" better and it gives the jelly a better color and flavor. Stem grapes and currants. Bring to a boil and then boil very rapidly until soft; mash them if necessary to make the juice come out. Put the fruit in a bag made from a piece of cheese cloth, cut square and sewed up diagonally so as to form a cornucopia. Fasten the bag to some convenient place to drain, or if in a hurry squeeze the juice out. This gives you a good deal more jelly, if quantity is what you are after, and it jellies quicker if it is pressed some, but the jelly will not be so clear, although it is extremely nice. When the juice has been pressed out or has been dripped out, measure it and put it over the fire. Measure as much sugar as you have juice and put this in the oven to heat. Let the juice come to a quick boil uncovered. Let it boil exactly 20 minutes then add the sugar and let it boil up. Do not cook it two minutes after it boils up again if the sugar is all melted by this time. Skim off any skum and pour into glasses and you are done. Many times the jelly will get hard almost at once, but in some cases it will not be real hard for some days after it has been made, and it is better so, for jelly that hardens at once is apt to get too solid when it is kept any length of time.

Do not cover soft jelly with paraffin until it hardens; when it does, pour melted paraffin over the top to prevent it getting any harder, and to prevent moulding. It can be lifted off when the jelly is wanted for use.

Many fruits will not jelly alone. With these, a mild-flavored but sour apple should be used, half and half, as apples have as much jelly making properties as any known fruit.

You can use apples whole for jelly, simply washing them clean, but quinces should always have the stones removed for these possess a certain property that prevent anything from jellying. Without the stones, this fruit jellies easily and makes one of the most delicious jellies known. The juice from cooked quince parings when added to apple juice, will flavor the apple jelly richly. Peach juice and apple juice is a combination that makes delicious jelly. Also combinations of pineapple and apple, raspberry and currants, and so on.

He Knew

"Why couldn't Eve 'ave the measles, old boundah?"

"Cawn't say that I know. Why?"

"Because she 'ad Adam, old fellow."

THE MARITIME FARMER

AND

CO-OPERATIVE DAIRYMAN

REGISTERED TRADE MARK

Official Organ of The Farmers' and Dairymen's Association of New Brunswick, The Nova Scotia Farmers' Association, The Nova Scotia, New Brunswick and P. E. Island Fruit Growers' Associations, The Maritime Stock Breeders' Association, The Maritime Bee-Keepers' Association and The Newfoundland Agricultural Board.

Volume 22. SUSSEX, NEW BRUNSWICK, SEPTEMBER 25, 1917. Number 24.

The Nova Scotia Provincial Exhibition

The Nova Scotia Provincial Exhibition for 1917 was held, as advertised in the columns of the Maritime Farmer, on September 12th to 20th.

Every promise made to the public by Manager M. McF. Hall re the attractions of the big fair was redeemed. The farmers, horticulturists and stock raisers of the Maritime Provinces, brought together their best products from their fields, gardens, orchards, barns and pastures, where they might compare the results of their efforts during the year, glean ideas from each other and infuse a new energy into their work.

The brand of weather was all that could be desired until the near the close of the fair. The attendance was very good, considering that many branches of industry in Maritime Canada are working short handed. Many of our progressive farmers now look upon the Halifax Exhibition as an ideal place to spend their yearly holidays—a place where they can combine business, education and pleasure.

Manager Hall, his efficient staff and the various members of the Exhibition Commission had worked hard to stage an exhibition that would be pleasing to the public. The farmers and other exhibitors co-operated with their best efforts so that the outcome was quite satisfactory to everybody. Matters were run as smoothly as possible. Obnoxious features were elimated from the midway. The professional shark was not allowed to operate on the grounds and upwards of twenty witty gentlemen, pho perhaps had found Halifax Exhibitors an easy prey had to hastily betake themselves to other parts when the management discovered the first clues to shady practices.

Visitors to the Exhibition could find many matters to interest them in the various departments.

THE MINES BUILDING

The mines building was well filled with specimens of the Economic minerals of Nova Scotia and exhibits showing some of the products of the Dominion Iron & Steel Co. The Nova Scotia Steel and Coal Co., and various other coal mining companies operating in the province. Visitors were also interested in the munitions display there staged.

THE WOMENS INSTITUTES OF NOVA SCOTIA

The Womens Institutes Branch of the Nova Scotia Department of Agriculture, under the efficient management of their superintendent, Miss Jennie A. Fraser, conducted canning demonstrations at stated hours in the building occupied by them last year. The display of canned fruits and vegetables and the explicit manner in which Miss Fraser explained how easily the work may be performed, will surely be an incentive to the home-makers of the province to conserve for future use, quantities of delicious vegetables that will come in handy and help to lend variety to the family bill-of-fare during the season when fresh vegetables are strangers to many tables.

The figures given out by Miss Fraser show that a great saving may be effected by canning home grown or even bought vegetables and fruits, rather than by following the practice of purchasing factory canned goods.

The fine Arts and Ladies' Fancy Work Departments, particularly in the latter class, was well up to the displays of previous years.

IN THE MAIN BUILDING

Every available foot of floor space in the main building was occupied. The various booths were well arranged and attractive.

The galleries contained the best and most comprehensive display of the work of school children ever staged in Maritime Canada. It was very interesting to examine the work of the pupils of the many schools that helped stage the display. The work showed that the young of the province are being lead along right lines to future lines of usefulness.

The Live Stock Branch of the Federal Department of Agriculture had their educative displays of eggs and wool on exhibition with competent men in charge, who were indefatiguable in their work of explaining to an interested public the proper methods of caring for and marketing these two important commodities.

THE NOVA SCOTIA AGRICULTURAL COLLEGE

had a well arranged booth conducted by its Department of Chemistry showing:—

(1) Various types of Nova Scotian soil with their analysis.

(2) Specimens of turnips and clover to show effect of liming.

(3) A display of the various commercial fertilizers with their analysis. In this connection the various by-products of N. S. suitable for fertilizer are shown for comparison, both in price and analysis, with the commercial articles.

(4) An exhibit of the numerous forms of limestone and marl, native to our province. Figures showing analysis also accompany these.

(5) Numerous charts setting forth in a concise manner, much valuable informaiton for the agriculturist.

(6) Such simple tests as the titmus test for sour soils and the acid test for limestone, are demonstrated to interested parties.

Objects:

(1) To interest farmers in the raw material of their industry; i. e., in the soil, its ingredients and deficiencies and how the latter can best be remedied.

(2) To give information on the composition and relative value of different fertilizing materials.

(3) To encourage the use of lime and to explain just how it acts; its different forms, etc.

Results have been encouraging. Many farmers have expressed themselves as highly pleased with the character of the exhibit.

THE JUDGES

The awards in the various agricultural and live stock classes were placed by the following judges:—

Heavy Horses—D. J. Greig, Allens Corners, Que.

Light Horses—Dr. J. Hugo Reed, Guelph, Ont.

Ayrshires—Jas. Bowden, Danville, Que.

Jerseys—F. L. Greene, Greenwood.

Holsteins—Neil Sangster, Ormstown, Que.

Guernseys—F. L. Greene.

Beef Cattle—F. H. Reed, Ottawa.

Sheep—F. H. Reed.

Swine—T. H. Mason, Ottawa.

Poultry—W. H. Reid, Kingston, Ont.

Dairy Products—Harvey Mitchell and W. A. MacKay.

Horticultural Products—Geo. H. Vroom, Middleton.

Agricultural Products—S. J. Moore.

IN THE AGRICULTURAL HALL

The Agricultural Hall was filled to its capacity with the products of fields and garden. Many excellent specimens were shown in the respective classes and showed to no small degree the good work that our farmers accomplished during the past season, in their efforts for increased production.

The display of vegetables, etc., from the schools participating in Rural Science work, was the most creditable ever brought together in the Maritime Provinces, and was a clear indication of the hearty manner in which the teachers of the province are co-operating with Superintendent DeWolfe in getting the children interested in matters that will claim their attention when they come to mature years. The exhibits staged by the respective schools would have been a good exhibition of agricultural products for the Halifax Exhibition, even if the rank and file of the farmer exhibitors had not responded as heartily as they did this year. Congratulations to Superintendent DeWolfe.

The prize-winners in the most important sections of the Agricultural Products Class were as follows:—

HORTICULTURAL PRODUCTS

The fruit growers also staged a very good display of their fruits. It is true that at this early date fruit is green and immature, but the visitors can readily understand this condition and will rather judge of the quality of our apples by the freedom from insect and fungus injuries of the varieties staged.

HORTICULTURE

Apples

Best and most valuable collection Apples—1, Arthur G. Sangster, Falmouth, N. S.; 2, B. F. Chesley, Bridgetown, N. S.; 3, H. D. Johnson, Wolfeville, N. S.

Best Collection 10 Commercial or export varieties Apples—1, H. D. Johnson; 2, H. E. Bent, Tufferville, N. S.; 3, Robt. Dill, Falmouth, N. S.

Best Collection 5 Commercial or export varieties Apples—1, H. E. Bent; 2, Harold D. Almaine, Wolfeville, N. S.; 3, Arthur G. Sangster, Falmouth, N. S.

Best Collection of new varieties, correctly named Apples—1, Arthur G. Sangster; 2, H. E. Bent.

Gravenstein—1, A. L. Morse, Berwick, N. S.; 2, H. A. D'Almaine; 3, A. G. Sangster.

Ribston—1, H. Loomer, Falmouth; 2, A. G. Sangster; 3, H. A. D'Almaine.

Blenheim—1, R. W. Norine, Greenwich, N. S.; 2, H. D. Johnson, Wolfeville; 3, H. L. Neily, Kingston.

King—1, Robt. E. Dill, Falmouth; 2, H. A. D'Almaine; 3, A. G. Sangster.

Golden Russet—1, H. A. D'Almaine; 2, A. G. Sangster; 3, Robt. E. Dill.

Stark—1, H. E. Bent; 2, A. G. Sangster; 3, A. L. Morse.

Northern Spy—1, H. A. D'Almaine; 2, Frank J. Locke, Amherst; 3, A. B. Graves, Kingston Village, N. S.

Baldwin—1, H. D. Johnson; 2, A. L. Morse; 3, Harold D'Almaine.

Fallawater—1, A. L. Morse; 2, H. L. Neily.

Nonpariel—1, F. D. Smith, Kingston; 2, H. D. Johnson; 3, H. D'Almaine.

Alexander—1, H. D. Johnson; 2, A. L. Morse; 3, H. D'Almaine.

Astrachan—1, B. F. Chesley, Bridgetown; 2, Arthur G. Sangster; 3, H. L. Neily.

Ben Davis—1, Arthur G. Sangster; 2, H. E. Bent; 3, Harold D'Almaine.

Baxter—1, H. E. Bent; 2, A. B. Graves; 3, H. L. Neily.

Bishop Pippin—1, H. D. Johnson; 2, Robt. E. Dill; 3, F. D. Smith.

Boskoop—1, W. S. R. Gow, Grand Pre, N. S.; 2, H. D. Johnson; 3, Arthur G. Sangster.

Cox Orange—1, H. Loomer; 2, Arthur G. Sangster; 3, H. E. Bent.

Chenango Strawberry—1, H. D. Johnson.

Crimson Beauty—H. E. Bent.

Duchess of Oldenburg—1, A. G. Sangster; 2, Thos. Aylward, Falmouth;; 3, H. E. Bent.

Early Bough—1, H. D. Johnson; 2, B. F. Chesley; 3, H. E. Bent.

Early Williams—1, Thos. Aylward; 2, H. E. Bent; 3, W. S. Gow.

Gloria Mundi—1, H. D. Johnson; 2, Arthur G. Sangster; 3, H. E. Bent.

Pewauky—1, B. F. Chesley; 2, H. E. Bent; 3, F. D. Smith.

Hurlbut—1, H. L. Neily; 2, H. D. Johnson; 3, H. E. Bent.

Hubbardston—1, B. F. Chesley; 2, Harold D'Almaine; 3, Arthur G. Sangster.

McIntosh—1, H. E. Bent; 2, H. D'Almaine; 3, H. D. Johnson.

Munsons Sweet—1, H. D. Johnson; 2, F. D. Smith; 3, H. D'Almaine.

Mann—1, H. L. Neilly; 2, H. D. Johnson; 3, H. Loomer.

North Star—1, H. D'Almaine; 2, A. B. Graves; 3, Arthur G. Sangster.

Ontario—1, Arthur G. Sangster; 2, A. B. Graves; 3, A. L. Morse.

Ohio Nonpariel—1, H. D'Almaine.

Ponime Grisse—1, Arthur G. Sangster; 2, H. D. Johnson.

R. I. Greening—1, H. E. Bent; 2, H. D. Johnson; 3, Robet. E. Dill.

Seeps—1, H. D. Johnson; 2, Arthur G. Sangster; 3, H. D'Almaine.

Sutton Beauty—1, H. D. Johnson; 2, H. E. Bent; 3, H. D'Almaine.

Talman Sweet—1, F. D. Smith; 2, H. D'Almaine; 3, H. D. Johnson.

Wagner—1, A. B. Graves; 2, H. E. Bent; 3, H. D'Almaine.

Wolf River—1, A. L. Morse; 2, H. D'Almaine; 3, Robt. E. Dill.

Wellington—1, A. L. Morse; 2, H. D. Johnson; 3, A. B. Graves.

Wealthy—1, W. S. R. Gow; 2, H. E. Bent; 3, H. D'Almaine.

Best Collection Crab Apples, 5 varieties, properly named—1, Arthur G. Sangster; 2, Robt. E. Dill.

Pears

10 varieties Pears, 5 of each—1, B. F. Chesley; 2, Arthur F. Sangster; 3, Inez Davis, Avondale, N. S.

Pears, 5 varieties, 5 of each—1, B. F. Chesley; 2, H. E. Bent; 3, Arthur G. Sangster.

Plums

Collection 15 varieties Plums—1, B. F. Chesley; 2, H. E. Bent; 3, J. W. Hebb, Hebb's Corner, N. S.

Collection 6 varieties Plums—1, H. E. Bent; 2, B. F. Chesley; 3, J. W. Hebb.

Best Collection Grapes—1, B. F. Chesley; 2, Arthur G. Sangster; 3, W. S. R. Gow.

Collection Fruit Preserves—1, Sea View Farm, Starr's Point, N. S.; 2, Mrs. F. J. Porter, Wolfeville; 3, Mrs. H. E. Bent, Tupperville.

Collection Fruit Jellies—1, Sea View Farm; 2, Mrs. F. J. Porter; 3, Mrs. H. E. Bent.

Collection of Pickles—1, Sea View Farm, Mrs. F. J. Porter; 2, Mrs. F. J. Porter.

The Experimental Station, Kentville, Prof. W. S. Blair, Superintendent, staged the most attractive and educational exhibit yet attempted in the Maritime Provinces by any of the Experimental farms. The various models of farm buildings and equipments. The samples of produce and the trite morsels of advice, easily read and easily remembered, conveyed the moral arrived at in no uncertain sound. Visitors, who studied the various features of the display, and who will heed the facts taught, will be well repaid for their visit to the big show.

The prize winners for county fruit collections were:—

Special County Prizes—Fruits

Halifax—1, George Turner, Preston Road; 2, Mrs. Frances J. Turner, Preston Road.

Lunenburg—1, J. W. Hebb, Hebb's Cross; 2, H. T. Hebb, Bridgewater.

Digby—W. D. Ryerson, Bear River.

Annapolis—1, B. F. Chesley, Bridgetown; 2, H. E. Bent, Tupperville.

Kings—1, H. D. Johnson, Wolfville; 2, R. H. Kennedy, Hilden; 3, Harold D'Almaine, Wolfville.

Hants—1, Arthur G. Sangster, Falmouth; 2, Robert E. Dill, Falmouth; 3, Thos. Alward, Falmouth.

Colchester—1, George M. Anderson, Tatamagouche; 2, Aubrey Byers.

Pictou—1, Thos. C. Latham, Alma.

Antigonish—1, G. H. Landry, Lower South River.

DAIRY PRODUCE

Butter, best tub, box or firkin, not less than 50 lbs.. Made in creamery.

1, Acadia Dairy Co., Ltd., Wolfville. Score 95.7.

2. Intercolonial Creamery Co., South River Sta. Score 95.5.

3. Joseph Dansereau, St. Hyacinthe, Que. Score 95.1.

4. Ferdinancy Vaillancourt, Bonaventure, Que. Score 94.8.

5. C. M. Johnson, Central Bedeque, P. E. I. Score 94.0.

6. Scotsburn Creamery Co., Ltd., Scotsburn. Score 93.3.

7. Antigonish Dairy Co., Antigonish. Score 92.7.

Box, not less than 28 lbs., made in creamery.

1, Acadia Dairy Co., Ltd. Score 96.1.

2. Scotsburn Creamery Co., Ltd. Score 93.9.

3. C. M. Johnson. Score 93.5.

4. Antigonish Dairy Co., Ltd. Score 92.7.

5. South River Creamery Co. Score 92.1.

Butter, best prints, not less than 50 lbs., made in creamery.

1. Acadia Dairy Co., Ltd. Score 96.3.

2. Scotsburn Creamery Co., Ltd. Score 95.1.

3. Ferdinand Vialancourt. Score 93.8.

4. C. M. Johnson. Score 93.5.

Butter, in granular form. Creamery or Dairy.

1. Mrs. Arthur Tuttle, Wallace Bay.

2. C. M. Johnson, Central Bedeque.

4. Jas. C. Crosby, S. S Harbour.

Basket or package of prints, not less than 10 lbs., made in any dairy.

1. Mrs. Arthur Tuttle, Wallabe Bay. Score 94.3.

2. Mrs. F. W. Foster, Kingston, N. S. Score 93.3.

3. Mrs. Alex. Douglas, Heathbell, N. S. Score 92.3.

4. McFarlane Bros., Fox Harbor. Score 91.9.

Butter, best crock, box or tub, not less than 20 lbs, made in any dairy.

1. McFarlane Bros., Fox Harbour. Score 93.9.

2. Mrs. Arthur Tuttle, Wallace Bay. Score 92.5.

3. Mrs. F. W. Foster, Kingston. Score 90.6.

4. Mrs. Alex. Douglas, Heathbell. Score 90.3.

Cheese, best 2 colored, not less than 50 lbs. each.

1. Jos. H. McDonald, Vernon, P. E. I. Score 96.2.

2. L. J. Murphy, Tignish, P. E. I. Score 95.8.

3. Leo. Hughes, Emerald, P. E. I. Score 94.8.

4. Wesley Keefe, Stanley Bridge, P. E. I. Score 94.6.

5. C. A. Stevenson, New Glasgow, P. E. I. Score 91.5.

Cheese, best home made, not less than 15 lbs.

1. Mrs. Alex. Douglas, Heathbell, N. S. Score 86.

Judges:

Harvey Mitchell, Fredericton.

McV. MacKay, Truro.

THE SWINE CLASSES

The swine breeders were not filled very extensively, but there was lots of quality. Pork and pork products have soared to such high prices, that we persume our breeders are not over anxious to take such valuable animals as pigs too far away from home.

J. R. Semple & Son, Truro, N. S.; Alfred Servant, Yarmouth, N. S.; McFarlane Bros.; Chas. Elter and Frank J. Locke, showed some excellent Berkshires. The majority of the first prize winners were from the Semple herd.

There was but a small showing of Yorkshires, with little or no competition in the majority of sections.

J. W. Nicholson and H. W. Corning were the only exhibitors of White Chesters. The choicest plumes going to the Nicholson herd.

J. E. Baker & Sons were the only exhibitors of Duroc Jerseys.

The grade classes were nothing to brag over in point of numbers.

SHEEP

The sheepmen of Prince Edward Island were over with several splendid flocks of outstanding quality. The only Nova Scotia sheep breeders who came forward to help maintain the reputation of their province in sheep-breeding circles were:—John Retson, C. D. Pugsley, McFarlane Bros., Sharp & McNeil, J. E. Baker & Sons and Alfred Servant.

The only walk overs for an exhibitor was in the Hampshire and Cheviot classes, where Cephas Nunn of Prince Edward Island had lots of quality, but no competition.

THE POULTRY

The poultry display was very creditable. Taken as a whole the birds were in good condition and feather. A full list of prize winners is published elsewhere in this issue, where the reader may ascertain who is who as breeders of the respective varieties.

The display of honey and aipiary products was very limited. Chas. Piers of Armdale being the only exhibitor. A province in which the fruit growing industry plays such an important part as apple growing does in Nova Scotia, may well afford to pay more attention to the honey bee.

From every standpoint Nova Scotia's third war time exhibition was most creditable. Sacrifices have been made and must be made, but the work of the agriculturist must not lag. The exhibitors very materially helps to keep the home fires burning and our basis industry advancing until the boys return.

THE HORSES

The showing of horses was not very large, Clydesdales and Standard Breds being the only two classes of which any special mention need be made, so far as numbers is concerned. The reader who peruses the list of awards will readily see that in the other classes competition was very light.

The aged stallion section of the Clydesdale Class, brought out six good sires, a number of them being champions in some of the hottest contests ever waged in Maritime show rings. These were Thorndale by High Honor; Boreland Crest by Scottish Crest; Baron's Own by Baron's Pride; Golden Nugget, Day Dream and Baron Rossiter. The first four stood in the order named, when the judge had placed the ribbons.

Three year old stallions were four in number, viz: Kelvin's Pride; Noble Majestic; Hillside Baron and Scotland Yet.

The best mare, any age, was McFarlane Bros' Nell Bowie by Golden Chief.

Snowball's Baron's Own was first with three of his get. Roper's Thorndale, the first prize aged stallion, was the best imported stallion, while a similar honor for Canadian bred stallion went to Snowball's Kelvin's Pride by Baron Kelvin.

The best Canadian bred mare was Snowball's two-year-old filly, Jenny Lind by Baron's Own.

Seven Standard bred aged stallions faced the judge. Mc Kenarion, Kelly B., Archille and Doctor Cole, were the prize-winners in the order named.

The best brood mare was Harriet King, and her foal by Major Todd led his class.

The diploma for best mare, any age, went to Burton Brenton's Dot Archille.

THE CATTLE

Dairy cattle made a good showing. A. McRae & Sons, McIntyre Bros. and Prescott Blanchard, were out with three exceptionally herds of Ayrshires and competition was keen and close.

McRae's aged bull, Hobsland Tumphie's Heir lead his class, was first with three of his get, headed the first prize aged herd, but did not succeed in winning the championship, an honor which went to his owner's junior yearling, Lochinvar's Champion.

The champion female was McRae's Nellie of Spring Brook Farm, shown in the four year old class.

The leader of the senior yearling bull class was Blanchard's Jean Armour's Lotus, out of the famous Jean Armour. Blanchard also had a magnificent herd of aged and young stock, of which any breeder might well feel proud.

McIntyre Bros' Morton Main's Lady Nelly was the dam of the champion cow and also the dam of the first and second pair of animals progeny of one cow.

The aged herd first prize went to McRae Sons, Blanchard came in for second place. McIntyre Bros. stood down to third position, but came to the fore again by leading with their young herd.

The Jerseys

H. S. Pipes & Son, Cann Bros., J. R. Semple & Sons and J. E. Baker & Sons were out with the best of their Jerseys. Honors were pretty evenly divided between the first two mentioned herds as will be seen by the list of awards. Pipes & Son led with aged and young herds. They also captured the championship prizes on male and female with their aged bull, His Reverence, and their four year old cow, Brampton Mousie.

Cann's aged bull Figgis Fox's Gem Fox was first with three of his get, who was also the sire of the best four animals get of one sire.

Guernseys

were shown by Pipes Bros. and H. W. Corning. Both herds were in fine fettle and the individuals were brimming over with quality. The Corning herd comprises some of the sweetest and trimmest young Guernseys we have seen for many days. Many of these are the get of Island Prince of Hillside, the aged bull at the head of the herd, and the champion of this and many previous shows.

The champion female was Corning's champion, Dairymaid of Hillside, shown in the aged cow class. Her progeny has put the Corning herd on the map. The majority of the individuals in the Corning show herd are the daughters, and in some cases the daughters and grand-daughters of Island Prince of Hillside, a line of breeding that gives exceptionally good results.

Holsteins

Harding Bros. and S. Dickie & Son were the principal exhibitors of Holsteins. Look up the list of awards and see where the respective herds and individuals were placed. The male championship went to the New Brunswick herd of their aged bull, Sir Foforit Schuling by Schuling Sir Posch out of Foforit 7th Beauty. The Nova Scotia herd captured the female championship with Maggie Abbekerk, first prize winner in the dry four-year-old class.

Harding's champion bull was first with three of his get, and their Foforit 7th Beauty, champion at Quebec, and second in class of 28 at Sherbrooke, was first with two of her progeny.

Both herds were out in fine shape, and a credit to their breed.

Shorthorns

J. M. Laird & Son of Prince Edward Island, R. A. Snowball of New Brunswick and A. N. Griffin of Nova Scotia put up a three cornered contest with a trio of well fitted Shorthorn herds. The champion bull was Laird's aged bull, Stately Monarch, a former sire in the Griffin herd that left his good marks in the splendid individual prize winners shown by Mr. Griffin. The champion female was Laird's Stately Blossom, a senior yearling calf.

Aberdeen Angus

Horne Bros. of Prince Edward Island, A. G. Spafford of Quebec and Geo. A. Black of New Brunswick were on hand with some good doddies. The male championship went to the youngest exhibitor, Mr. Black on h,s senior yearling, Buster Winsloe.

The champion female was Spaffords Junita. Horne Bros. led the way

with young herd, while Spafford led in the aged bull class.

Herefords and Devons

Wm. O'Brien & Sons had everything their own way with their Herefords, and Wm. A. Pinkney had a similar walkover with his Devons.

PRIZE WINNERS AT HALIFAX EXHIBITION

HORSES

General Purfose

Mare or Gelding, 4 years old—1, Wm. Robinson, Halifax; 2, Wm. McMann, Truro. 3, Frank Archibald, Truro.

Mare or Gelding, 3 years old—1, Geo. M. Holmes, Amherst; 2, S. D. Kerr, Milford Sta.

Brood Mare with Foal—1, Clifford S. Tanner, Halifax.

Foal of 1917—1, Clifford S. Tanner.

Matched Team—1, S. D. Kerr.

Light Draught or Agricultural Horses

Mare or Gelding, 4 years old—1, Sharp & McNeil, Windsor.

Mare or Gelding, 3 years old—1, Sharp & McNeil.

Filly or Gelding, 2 years old—1, Geo. M. Holmes.

Filly or Gelding, 1 year old—1, McFarlane Bros., Fox Harbour Pt., N. S.; 2, Geo. M. Holmes.

Matched Team—1, Geo. M. Holmes.

Heavy Draught Horses

Mare or Gelding, 4 years old—1, S. D. Kerr; 2, Sharp & McNeil.

Filly or Gelding, 1 year old—1, Sharp & McNeil.

Matched Team—1, McFarlane Bros.

Coach Horses

Stallion, 4 years old—1, H. C. Jewett, Fredericton.

Clydesdales

Stallion, 4 years old—1, Roper Bros.; 2, McFarlane Bros.; 3, R. A. Snowball, Chatham, N. B.; 4, Sharp & McNeil; 5, C. A. Stevenson, New Glasgow.

Stallion, 3 years old—1, R. A. Snowball; 2, H. C. Jewett, Fredericton; 3, Prescott Blanchard; 4, H. C. Jewett.

Stallion, 2 years old—1, H. Purdy & Sons, Wentworth Station, N. S.; 2, A. W. Nelson, Hartford, N. S.; 3, McFarlane Bros.

Stallion, 1 year old—1, Prescott Blanchard, Truro.

Brood Mare with Foal—1, Prescott Blanchard; 2, Prescott Blanchard.

Filly, 4 years old—1, McFarlane Bros.; 2, R. A. Snowball; 3, McFarlane Bros.

Filly, 3 years old—1, McFarlane Bros.; 2, McFarlane Bros.

Filly, 2 years old—1, R. A. Snowball; 2, Geo. M. Holmes; 3, McFarlane Bros.

Filly, 1 year old—1, R. A. Snowball; 2, McFarlane Bros.; 3, R. A. Snowball.

Foal of 1917—1, Prescott Blanchard; 2, Prescott Blanchard.

Stallion, and 3 of his get—1, R. A. Snowball.

Mare, any age—1, McFarlane Bros.

Clydesdale Association Specials

Best Imported Clydesdale Stallion—1, Roper Bros.; 2, McFarlane Bros.

Best Imported Clydesdale Females—1, McFarlane Bros.

Best Canadian Bred Stallion—1, R. A. Snowball.

Best Canadian Bred Female—1, R. A. Snowball.

Best Single Mare or Gelding in Harness—1, McFarlane Bros.

Best Matched Team in Harness—1, Sharp & McNeil; 2, McFarlane Bros.

Best Stallion, any age—1, Roper Bros.

Percherons

Stallion, 4 years old—1, H. C. Jewett, Fredericton.

Filly, 3 years old—1, Wm. McMann, Truro.

D. J. Grey, Bryonville, Ont., Judge.

Thoroughbreds

Stallion, 3 years old—1, Geo. M. Holmes.

Brood Mare with Foal—1, Geo. M. Holmes.

Filly, 4 years old—1, Geo. M. Holmes.

Filly, 1 year old—1, Geo. M. Holmes.

Foal of 1917—1, Geo. M. Holmes.

Standard Breds

Stallion, 4 years old—1, Wm. McManus, Truro; 2, Blanchard Brenton, Brentwood, N. S.; 3, Albert Harty, Lower Stewiacke, N. S.; 4, Clifford W. Whalen, New Germany, N. S.

Stallion, 3 years old—1, Ines & Murdock, Montague, P. E. I.

Stallion, 2 years old—1, P. G. McDonald, Upper Dyke Village, N. S.; 2, W. H. Muir, Halifax; 3, C. A. Musgrave, Halifax.

Stallion, 1 year old—1, P. G. McDonald; 2, Dr. G. A. Polley, Lunenburg.

Brood Mare with Foal—T. C. Latham, Alma; 2, C. A. Musgrave.

Filly, 4 years old—1, Geo. M. Holmes; 2, L. R. Acker, Halifax; 3, R. E. Feltus, Lawrencetown.

Filly, 2 years old—1, Burton Brenton, Truro; 2, H. S. Pipes & Son.

Filly, 1 year old—1, H. S. Pipes & Son.

Foal of 1917—1, T. C. Latham; 2, Wm. McManus; 3, C. A. Musgrove.

Stallion, any age—1, Wm. McManus.

Brood Mare, any age—1, Burton Brenton.

Roadsters

Brood Mare with Foal—1, S. D. Kerr; 2, Dr. C. A. Hawkins, Halifax; 3, Geo. M. Holmes.

Filly or Gelding, 3 years old—1, Geo. M. Holmes; 2, John E. Goodwin, Halifax; 3, Aubrey A. Whitman, Torbrook, N. S.

Filly or Gelding, 2 years old—1, Geo. M. Holmes.

Filly or Gelding, 1 year old—1, Geo. M. Holmes; 2, Merriel Newcombe, Halifax.

Foal of 1917—1, S. D. Kerr; 2, Dr. C. A. Hawkins; 3, Mrs. C. M. Hart, Antigonish.

Matched Pair—1, Horne Bros., Winsloe Sta., P. E. I.; 2, Geo. M. Holmes.

Single Horse in Harness—1, T. C. Latham; 2, Thos. Buckley, Sydney, N. S.; 3, H. C. Lydiard, Centreville, N. S.; 4, Horne Bros.; 5, Frank Gardener, Stewiacke.

Carriage Horses

Brood Mare with foal—1, S. H. James, Halifax.

Filly or Gelding, 3 years old—1, R. A. Snowball; 2, Geo. M. Holmes; 3, S. H. James.

Filly or Gelding, 1 year old—1, Geo. M. Holmes.

Foal of 1917—1, S. H. James.

Pair Matched—1, R. A. Snowball; 2, Geo. M. Holmes; 3, Otis Gardener, Shubenacadie, N. S.

Single Horse in Harness—1, R. A. Snowball; 2, Geo. M. Holmes; 3, Otis Gardener.

Ponies

Stallion, over 12 and under 14 hands—1, R. A. Snowball; 2, John D. McLellan, Halifax.

Mare or Gelding, over 13 and under 14½ hands—1, Wm. Robinson, Halifax; 2, John D. McLellan, Halifax.

Mare or Gelding, over 12 and not over 13 hands—1, Blanchard Brenton; 2, John D. McLellan.

Mare or Gelding, under 12 hands—1, A. D. Johnson, Halifax.

Shetland Stallion, not over 10½ hands—1, Miss Elizabeth Freeman, Halifax; 2, C. P. Spencer, Truro.

Shetland Mare or Gelding, not over 10½ hands—1, C. P. Spencer; 2, C. P. Spencer.

Hackney Horses

Stallion, 4 years old—1, R. A. Snowball.

Filly, 4 years old—1, Geo. M. Holmes.

Filly, 1 year old—1, R. A. Snowball.

Best Stallion (Hackney Society Silver Medal)—1, R. A. Snowball.

Best Mare, (Hackney Society Silver Medal)—1, R. A. Snowball.

Saddle Horses

Horse ridden by gentlemen—1, Horne Bros.; 2, Wm. Robinson.

Horse ridden by lady—1, Miss O'Brien; 2, Geo. M. Holmes; 3, Wm. Robinson.

Tandems

Mares or Geldings, over 14.2 hands, shown to suitable vehicle—1, R. A. Snowball; 2, Horne Bros.; 3, Geo. M. Holmes.

DAIRY CATTLE

Ayrshires

Bull, 3 years old—1, A. McRae & Sons, Charlottetown, P. E. I.; 2, McIntyre Bros., Sussex, N. B.

Bull, senior yearling—1, Prescott Blanchard, Truro, N. S.; 2, McIntyre Bros.

Bull, junior yearling—1, A. McRae & Sons; 2, McIntyre Bros.; 2, John Retson, Truro.

Bull Calf—1, McIntyre Bros.; 2, Prescott Blanchard; 3, McIntyre Bros.; 4, Prescott Blanchard.

Cow, dry, 4 years old—1, Prescott Blanchard; 2, A. McRae & Sons; 3, McIntyre Bros.; 4, John Retson.

Cow, 4 years old—1, A. McRae & Sons; 2, A. McRae & Sons; 3, McIntyre Bros.; 4, McIntyre Bros.

Cow, 3 years old—1, Prescott Blanchard; 2, A. McRae & Sons; 3, McIntyre Bros.; 4, Prescott Blanchard.

Heifer, 2 years old—1, John Retson; 2, A. McRae & Sons; 3, A. McRae & Sons; 4, Prescott Blanchard.

Heifer, senior yearling—1, McIntyre Bros.; 2, Prescott Blanchard; 3, A. McRae & Sons; 4, Prescott Blanchard.

Heifer, junior yearling—1, McIntyre Bros.; 2, McIntyre Bros.

Heifer Calf—1, A. McRae & Sons; 2, McIntyre Bros.; 3, McIntyre Bros.; 4, McIntyre Bros.; 5, John Retson.

Bull and 3 of his get—1, A McRae & Sons; 2, McIntyre Bros.

Cow and 2 of her offspring—1, McIntyre Bros.; 2, A. McRae & Sons.

Aged Herd—1, A. McRae & Sons; 2, Prescott Blanchard; 3, McIntyre Bros.

Breeder's Young Herd—1, McIntyre Bros.; 2, A. McRae & Sons; 3, McIntyre Bros.

Champion Female—A. McRae & Sons.

Champion Male—1, A. McRae & Sons.

Four Animals, get of one sire—1, A. McRae & Sons; 2, Prescott Blanchard; 3, McIntyre Bros.

Two Animals, progeny of one cow—1, McIntyre Bros.; 2, McIntyre Bros.; 3, A. McRae & Sons.

Jerseys

Bull, 3 years old—1, H. S. Pipes & Son, Amherst, N. S.; 2, Cann Bros., Chegoggin, N. S.; 3, H. S. Pipes & Son.

Bull, 2 years old—1, H. S. Pipes & Son.

Bull, senior yearling—1, J. R. Semple & Son, Truro; 2, H. S. Pipes & Son; 3, J. E. Baker & Sons, River Hebert, N. S.

Bull, junior yearling—1, Cann Bros.

Bull Calf—1, Cann Bros; 2, J. R. Semple & Son; 3, H. S. Pipes & Son.

Cow, dry, 4 years old—1, Cann Bros.; 2, Cann Bros.; 3, H. S. Pipes & Son.

Cow, 4 years old—1, H. S. Pipes & Son; 2, H. S. Pipes & Son; 3, Cann Bros.

Cow, 3 years old—1, Cann Bros.; 2, H. S. Pipes & Son; 3, J. R. Semple & Son.

Heifer, 2 years old—1 and 2, Cann Bros.; 3, H. S. Pipes & Son.

Heifer, senior yearling—1, H. S. Pipes & Son; 2, Cann Bros.; 3, H. S. Pipes & Son.

Heifer, junior yearling—1, H. S. Pipes & Son; 2, Cann Bros.; 3, H. S. Pipes & Son.

Heifer Calf—1, Cann Bros.; 2, H. S. Pipes & Son; 3, J. R. Semple & Son.

Bull, and 3 of his get—1, Cann Bros.

Female and 2 of her offspring—1, H. S. Pipes & Son.

Aged Herd—1, H. S. Pipes & Son; 2, Cann Bros.

Breeders' Young Herd—1 and 3, H. S. Pipes & Son; 2, Cann Bros.

Champion Bull—1, H. S. Pipes & Son.

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Champion Female—1, H. S. Pipes & Son.

Four Animals, get of one sire—1, Cann Bros.; 2, H. S. Pipes & Son.

Guernseys

Bull, 3 years old—1, H. W. Corning, Chegoggin, N. S.; 2, Roper Bros., Charlottetown, P. E. I.

Bull, 2 years old—1, Roper Bros.; 2, H. W. Corning.

Bull, junior yearling—1, Roper Bros.

Bull Calf—1, A. C. Christie, Truro, N. S.; 2, Roper Bros.; 3, H. W. Corning.

Cow, dry, 4 years old—1 and 3, H. W. Corning; 2, Roper Bros.

Cow, 4 years old—1 and 2, H. W. Corning; 3, Roper Bros.

Cow, 3 years old—1, H. W. Corning; 2, Roper Bros.

Heifer, 2 years old—1 and 3, H. W. Corning; 2, Roper Bros.

Heifer, senior yearling—1 and 3, H. W. Corning; 2, Roper Bros.

Heifer, junior yearling—1 and 2, H. W. Corning; 3, Roper Bros.

Heifer Calf—1, 2, 3 and 4, H. W. Corning.

Bull, and three of his get—1, H. W. Corning.

Cow, and 2 of her progeny—1, H. W. Corning.

Aged Herd—1 and 3, H. W. Corning; 2, Roper Bros.

Breeders' Young Herd—1, Roper Bros.; 2, H. W. Corning.

Champion Bull—H. W. Corning.

Champion Female—H. W. Corning.

Holsteins

Bull, 3 years old—1 and 2, Harding Bros., Welsford, N. B.

Bull, 2 years old—1, Harding Bros.; 2, S. Dickie & Son, Central Onslow, N. S.

Bull, senior yearling—1, S. Dickie & Son.

Bull, junior yearling—1, McFarlane Bros., Fox Harbour Point, N. S.; 2, Harding Bros.

Bull Calf—1, S. Dickie & Son; 2 and 3, Harding Bros.

Cow, dry, 4 years old—1 and 2, S. Dickie & Son; 3, Harding Bros.

Cow, 4 years old—1, Harding Bros.; 2, S. Dickie & Son.

Cow, 3 years old—1 and 2, S. Dickie & Son.

Heifer, 2 years old—1, Harding Bros.; 2 and 3, S. Dickie & Son.

Heifer, senior yearling—1 and 2, Harding Bros.; 3, S. Dickie & Son.

Heifer, junior yearling—1, Harding Bros.; 2 and 3, S. Dickie & Son.

Heifer Calf—1, 3 and 5, Harding Bros.; 2 and 4, S. Dickie & Son.

Bull, and 3 of his get—1, Harding Bros.

Cow, and 2 of her progeny—1, Harding Bros.

Aged Herd—1, S. Dickie & Son; 2 and 3, Harding Bros.

Breeders' Young Herd—1, S. Dickie & Son; 2 and 3, Harding Bros.

Champion Bull—Harding Bros.

Champion Female—S. Dickie & Son.

Four animals get of one sire—1 and 3, Harding Bros.; 2, S. Dickie & Son.

Three animals, progeny of one cow—1 and 3, Harding Bros.; 2, S. Dickie & Son.

Grade Jerseys asd Guernseys

Cow 4 years old—1, Alfred Servant, Yarmouth, N. S.

Cow, 3 years old—1 and 2, Alfred Servant; 3, Robt. Thompson, Halifax.

Heifer, 2 year old—1, Alfred Servant.

Heifer, 1 year old—1 and 2, Roy B. Pipes, Amherst; 3, Thos. C. Latham, Alma.

Heifer Calf—1, Alfred Servant; 2, Mrs. Robt. Thompson, Halifax; 3, Jas. Nicholson, Halifax.

(Continued on page 609)

THE MARITIME FARMER.

And Co-operative Dairyman

Registered Trade Mark

Semi-Monthly Journal devoted to the interests of the farmers of the Maritime Provinces.

Official Organ of The Farmers and Dairymen's Association of New Brunswick; The Nova Scotia Farmer's Association; The Nova Scotia and P. E. I. Fruit Growers' Associations; The New Brunswick Fruit Growers' Association; The Maritime Stock Breeders' Association; The Maritime Bee-Keepers' Association; The New Brunswick Poultry Association, and the Newfoundland Agricultural Board.

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SEPTEMBER 25, 1917

DATES OF ISSUE.

September 11-25
October 9-23
November 6-20
December 4-18

WHAT MAY BE EXPECTED OF AN EFFICENT COMMUNITY ORGANIZATION

The result of any legitmate effort for uplife in any particular community, will depend upon the men in that area. No one man can do the necessary work. It must be done through the combined interest and efforts of the men who are either directly or indirectly interested in a particular movement.

The president and officers cannot do all the work, and they should not be expected to do it. The problem is usually one for the entire community. What is one man's interest is every man's interest. Vigilance, promptness and concerted action on the part of everyone will spell success. In working out the details of organization, many questions will come up for settlement. Most of these will have to be left to the executive board. The countless details can in this way be threshed out without calling the general membership together. Much will depend upon the officers in the organization. They must be men in whom the community has confidence, and men who will take a broad, public-spirited view of matters. If a community can secure the right sort of men to handle the work in the organization, and the individual members will each feel a personal responsibility for the conditions and results, much can be accomplished for the community. Such an organization will create an interest in the business, reduce the loss, consequently lower the cost of production, and increase both the pleasure and profits from the business.

THE LATE C. W. McDOUGALL

The dairy industry of New Brunswick has sustained a severe loss in the death of its Superintendent, Mr. C. W. McDougall, which occurred at his home, Sussex, on Tuesday evening, September 11th.

His family and friends were shocked when on Thursday morning, September 6th, it became known that he had been run over by an automobile, and that his condition was serious. Hopes brightened when the doctors were able to perform an operation on Saturday, that seemed successful. The skull was, however, so badly fractured and the body so badly bruised, that complications set in, and he finally passed away.

The late Mr. McDougall was well known in dairy circles, and had a host of friends all over Canada. To know Mr. McDougall was to respect him. He did his work conscientiously and without fear or favor, and always upheld a square deal to everybody.

He is gone. We knew him intimately for over ten years. We will miss him. We know we voice the sentiments of all who knew him, when we say that our deepest sympathy goes forth to his sorrowing wife and little children, Jean, Ruth, and Robert, to whom he had been an ideal husband and father.

SAVING BY PLANNING

The man who first announced that the food necessity of the world bound upon every person the obligation to save, but not to hoard, scored a total success. The dictionary was against him, but the mental state of the world was favorable. According to the dictionary, saving is hoarding and hoarding is saving. But as the word has one into all the world, the best thing to do in the circumstance is stop chasing it and turn our attention to the business of getting along as well as we can. The duty of saving is no more binding now than it always has been, for we do not understand that any new moral law has been created since the commencement of the great war. There is no good reason why the people should not continue to eat and dress normally, which would be according to the moral law. Shifts and adjustments will have to be made, no doubt, but they should be made calmly and prudently.

Planning is the word that should have been sent out, a planning that will reduce the cost of necessities but not their real value as food or dress or utility. The present emergency may sanction the plan of giving up wheat bread on certain days or at certain meals, but wholesome corn bread or oaten loaf is substituted. The body requirements will be supplied, and at the same time a proper adjustment will have been effected. The dishes will be changed, but the nourishing value of the food will be the same.

BUSINESS FARMING

According to a newspaper report which may not be far out of the way, the world's record for large acreage has been beaten up in Alberta by an American named C. S. Noble. Just recently his last load of grain hauled by a team of prize Clydesdales, drew up at the elevator at Lethbridge completing o total of 54,383 bushels from 1,000 acres of land. Behind it was a procession of autos filled with members of the local board of trade.

It is not many years since Noble left the United States to make a modest start in Canada. Now he owns three farms, and it is said his 1916 crop netted him $100,000.

The history of this record crop shows that the most modern business methods were used in its production. The work required 120 men, and these were directed by telephone from a central office. When Mr. Noble's presence was required at any place, a high powered automobile whirled him there in quick time.

Now we are not holding this up as an instance of what can be done by most anybody following business methods, etc., because "anybody" can't do it. Farming on such a scale as this is the privilege of relatively few. But it would hot have been possible at all unless a well-planned system had been followed to the letter; and now, the crop harvested and marketed, the books are being balanced from entries made according to such a cost system as is used by any great factory. But it is possible for any farmer to so plan his work as to make it come out to the best advantage at the end of the year. Part of his plan would naturally include a well-kept record, showing what his costs of production had been, so that he could compare them with the income from it. Not the least use of such a record is that it shows pretty closely what department of farm operation has paid most and what has paid least, if at all; and the natural suggestions that would come to the farmer who has kept such a record, will be of ample value to recompense hi mfor all the truble he has taken.

Farming is a business, just the same as any other occupation is. The farm is a factory. The fact that a great many farms and some factories are operated with apparent success without reference to some business system proves nothing, except that they would have been wonderfully successful had they been conducted according to a definite plan.

MOBILIZE FARM LABOR

Our country is facing the greatest crisis in her history. Not only are we actually at war with the greatest military power which is also next to the greatest naval power in the world, but we are facing a food situation that is giving the greatest concern to thinking people.

This country needs its young men in its training camps, making ready as speedily as possible for the work, whether offensive or defensive, they may be called upon to do. This is the country's greatest need; and the need is urgent; for we shall be fortunate if we can at least hold the advantages we have won until other forces are made ready.

But hardly less important is the work left for those remaining at home, whatever their age or disqualifications for military service, to do. For it is the accepted truth that the winning or losing of this war may lie with the farmer.

The main factor in the production of a bountgous harvest is the labor necessary for it. It is that our agricultural yield can be doubled—on conditon that we supply enough labor.

It is the labor buestion that is vital. And while the young manhood of the nation is at the front ready to sacrifice even their lives for the Nation's good, it is meet that those who are left behind should let no sacrifice stand ni the way of assuring the food supply of the Nation for the next year to come, at least. The young fellows under the legal age of enlistment can serve their country almost equally as well by enlisting in the farm brigade; for it is a certainty that mobilization of labor forces for increasing the food supply will come just as surely as mibilization of our fighting forces. The boy too young to enlist can quickly learn to handle any farm implement as well as his elders and become a fighting unit accordingly. And his services are regarded as highly important by those who are forwarding this mobilization plan.

And to every man who does not actually take up arms for his country we urge the necessity of his being on the farm and working as he never worked before.

The Charlotte County Exhibition

The 1917 fall fairs season has again arrived. Charlotte county led the way by throwing its gates open to the public on November 11th to 14th.

Secretary Stevens and the various officials who have the oversight of this important county fair, worked hard during the early spring and all through the season to induce the agriculturists of Charlotte county to do their utmost, not only to increase production but also to plan to show some of the fruits of their labors at the fair. The outlook was discouraging at times, owing to the fact that weather conditions and scarcity of farm labor greatly handicapped the work of the farmers, many of whom could scarcely see their way clear to spend much time on exhibition matters. However, the fact that the Department of Agriculture was ready and willing to grant seventy-five per cent. of the amounts paid out in prize money, induced many of the farmers to undertake some self-sacrifice in the way of extra work, so that good old Charlotte county would not be weighed in the balance and found wanting in a display of agricultural products.

The display of Live Stock, although not very large, was quite creditable. No special effort had been put forth to fit the cattle for the show. They were just an average lot of cattle kept under ordinary farm conditions in field fit. The pure bred classes included Jerseys, Ayrshires, Canadians and Holsteins. The special prize—a silver cup—donated by the St. Croix Courier, for the best bull, any breed, was captured by a two-year-old Ayrshire, shown by W. T. Reid, Rollingdam.

This cup was won in 1916 by Mr. Edwell Smmerson. E. O. McIntyre, Sussex, placed the awards.

The horses were judged by J. F. Frost, Hampton. There were several very nice horses in the ring, particularly in the Standard Bred, carriage, Farm Work and Heavy Draught Classes. LaForest Robinson showed a nice Clydesdale stallion by Sorbie Boy.

Thos. Hetherington, the Live Stock Superintendent for the province judged the Sheep and Swine, and gave universal satisfaction. There were some very nice sheep in the pens. Judging by the conversation heard at the ringside, Charlotte County farmers are greatly interested in the sheep industry.

The Swine classes were not large. Yorkshires, Berkshires and Tamworths were the pure breeds represented. The most outstanding individual in the pens was an eight months old barrow, shown by Mr. Thos. McDonald, St. Stephen. Mr. McDonald can grow pigs to perfection. In 1915 his pair of exhibition pigs dressed 900 pounds. His 19'6 pair dressed 896 pounds and the Yorkshire-Chester Cross barrow shown by him this year will step up pretty close to fifty per cent. of either set of figures.

The splendid display of field and garden roots, vegetables and grain was judged by Messrs. Wm. Kerr and O. C. Hicks. Considering the character of the past season, Charlotte County soil gave a good account of its stewardship. Charlotte County is becoming a strong horticultural county and many of the popular varieties grow there to a very creditable degree of perfection. Messrs. W. B. Gilman and W. P. Fox placed the awards. These gentlemen are both practical fruit growers and well qualified to give their fellow fruit growers some valuable ideas on the problems confronting them.

The schools of St. Stephen and Moore's Mills made good displays of the crops grown in their gardens.

The poultry display was judged by Seth Jones, in his usual painstaking manner. The display included a nice lot exhibited by members of the York County Poultry Keepers AssoAciation. H. M. McMonagle of Fredericton was there with a nice string of birds that were good enough to capture some of the choicest laurels at Sherbrooke.

Mr. Harvey Mitchell judged the dairy products display—a very creditable little show.

L. T. Floyd, the Aipiary judge, was kept busy for a while in placing the bee products. Many farmers in Charlotte County are interested in bees, and no where could they find one more interested in their work than Mr. Floyd, who as a practical bee man is now employed by the provincial department of agriculture to foster the industry.

The domestic and ladies' work departments were well filled and reflected much credit on the good housekeepers and home-makers of Charlotte County. Among the fancy work exhibits was some embroidered work, over one hundred years old, that attracted much attention.

The exhibition was well patronized. On Wednesday turnstiles registered close to 10,000 paid admissions, a record attendance. The attendance on the other days was also large, and every one seemed to enjoy the display in the various departments, the tented-city shows and the races, but perhaps the most interesting feature that attracted many of the visitors was a series of trenches and battle-front equipment, dug and looked after by returned soldiers. The visitors who walked through the zig-zagged trenches, dugouts, hospitals, machine gun apartments and steered clear of the wire fence entanglements, on which effices of dead German soldiers were hung and listened to the careful explanations of their soldier guides, can better understand what they read about matters of this kind.

The fair was a decided success and well warrants the 75% of prize awards paid by the Department of Agriculture.

HORSES

Standard Bred.

Stallion, 4 years old—1, Wilfred Todd, Milltown.

Stallion, 1 year old—1, Jas. McAllister, Milltown.

Filly or Gelding, 4 years old—1, W. F. McGibbon, Moore's Mills; 2, B. J. Maxwell, St. Stephen.

Filly or Gelding, 3 years old—1, Mrs. Arthur H. White, Moore's Mills; 2, W. F. McGibbon.

Filly or Gelding, 2 years old—1, W. F. McGibbon.

Carriage Horses to Halter

Filly or Gelding, 4 years old—1, David Johnson, St. Stephen; 2, Hugh Love, St. Stephen; 3, W. R. Simpson, Oak Bay.

Filly or Gelding, 3 years old—1, D. R. Chowen, Oak Hill; 2, Walter DeWolfe, St. Stephen; 3, Frank Clark, Sr., Moores' Mills.

Filly or Gelding, 2 years old—1, Ralph Stewart, St. Stephen; 2, D. R. Chowen, Oak Hill.

Carriage Horses to Harness

Stallion, 4 years old—1, E. F. Corbett, Milltown.

Mare or Gelding—1, Theo. Murchie, St. Stephen; 2, Robert Webber, Milltown; 3, Elwell DeWolfe, St. Stephen.

Matched Team—2, D. R. Chowen; 3, W. F. McGibbon.

Farm or Work Team

Brood Mare with Foal—1, J. A. Goudy, Waweig.

Mare or Gelding, 4 years old—1, Geo. H. Budd, St. Stephen; 2, Melbourne Reynolds, St. Stephen; 3, Harrison Pomeroy, Little Ridge.

Filly, 3 years old—1, Geo. Trafton, St. Stephen.

Filly, 2 years old—1, S. I. Irving Moores' Mills.

Filly or Gelding, 1 year old—1, J. A. Goudey.

Foal of 1917—1, Geo. H. Budd; 2, Harrison Pomeroy; 3, Pollys Forsythe.

Heavy Draft Horses

Mare or Gelding, 4 years old—1 and 2, David Johnson.

Filly or Gelding, 3 years old—1, W. E. Moffitt, St. Stephen.

Matched Team

1, David Johnson.

Clydesdales

Best Stallion, any age—1, La Forest Robinson, St. Stephen.

French Canadian

Stallion, any age—1, Harry Acheson, Elmsville.

CATTLE

Class 14—Jerseys

Bull, 2 years old—1, Jas. A. Maxwell, St. Stephen.

Bull, Junior—1, Polleys Forsythe; 2, Wilfred Todd.

Cow, 4 years old or upwards—1, Thos. McClure; 2, Jas. A. Maxwell.

Heifer Calf, 6 months old and under—1, Jos. Thomas, St. Stephen.

Class 15—Ayrshires

Bull, 2 years old—1, A. T. Reid, Rollingdam.

Bull, senior yearling—1, Cameron Berry, Oak Bay.

Bull Calf—1, Walter Howland; 2, Wilfred Todd.

Cow, 4 years old or upwards—1 and 2, A. T. Reid; 3, H. Freeman Lever.

Cow, 3 years old—1, A. T. Reid.

Cow, 2 years old—1, Walter Howland.

Heifer, 2 years—1, H. Freeman Lever; 2nd. A. T. Reid.

Heifer, senior—1, Martin Reid.

Heifer, junior—1, A. T. Reid.

Heifer Calf over 6 months, under 1 year—1, Martin Reid, Leverville; 2, Wilfred Todd.

Heifer Calf, 6 months old and under—1, A. T. Reid.

Herd Bull and 4 females—1, A. T. Reid.

Class 16—Holsteins

Holstein Bull, 2 years—1, Clarence Maxwell, St. Stephen.

Bull, senior—1, D. Hyslop, St. Stephen.

Bull, junior—1, Manzer Moffitt, St. Stephen.

Bull Calf, over 6 months, under 1 year—1, Albion Moffitt.

Bull Calf, 6 months and under—1, Manzer Moffitt.

Cow, 4 years and upwards—1, Hardy Barter, St. Stephen; 2, Albion Moffitt; 3, Manzer Moffitt.

Cow, 3 years old—1, W. E. Moffitt, St. Stephen.

Cow, 2 years old—1, Manzer Moffitt.

Heifer, senior—1, Albion Moffitt.

Herd, 1 Bull, 4 females—Manzer Moffitt.

Class 17—French Canadian

Bull, senior—1, W. S. Poole, St. Stephen.

Bull Calf, 6 months and under—1, Manzer Moffitt.

Cow, 4 years or upwards—1 and 2, W. S. Poole; 3, Manzer Moffitt.

Cow, 3 years old—1, W. S. Poole.

Cows, 2 years old—1, W. S. Poole.

Heifer Calf, 6 months and under—1, W. S. Poole.

Herd Bull and 4 females—1, W. S. Poole.

Class 18—Any other Pure Breeds of Dairy Cattle

Cows, 2 years old (Guernsey)—1, W. R. Simpson, Oak Bay.

Class 19—Beef Grades

Cow, 3 years or upwards—1, Manzer Moffitt.

Heifer, 2 years and under 3 years—1, W. E. Moffitt.

Heifer, 1 year and under 2 years—1, W. E. Moffitt; 2, Albion Moffitt.

Heifer Calf, under 1 year old—1 Manzer Moffitt.

Steer, 2 years old and under 3 years—1, W. E. Moffitt.

Steer, 1 year old, under 2 years—1, W. E. Moffitt.

Steer Calf, under 1 year—1, W. S. Stevens, St. Stephen; 2, W. E. Moffitt; 3, Manzer Moffitt.

Herd Bull and 4 females—1, W. E. Moffitt.

Class 20—Grade Jersey

Cow, 4 years old or upwards—1 and 2, Polleys Forsythe; 3, Hazen Linton, St. Stephen.

Cow, 3 years old—1, Polleys Forsythe.

Cow, 2 years old—1, Jas. Manuel, Mohanas; 2, Polleys Forsythe; 3, Chas. Middlemist.

Heifer, 2 years old—1, W. E. Moffitt; 2, Frank Clark, Sr., Moores' Mills.

Heifer, 1 year old—1, Polleys Forsythe; 2, Wellington Thompson, Dufferin; 3, Melbourne Reynolds, St. Stephen.

Heifer Calf, 1 year and over 6 months—1, Kenneth Maxwell, Bay Road; 2, Wm. Moffitt.

Heifer Calf, 6 months or under—1 and 2—Polleys Forsythe; 3, H. D. McKay, St. Stephen.

Herd Bull and 4 females—1, Polleys Forsythe; 2, Wm. Moffitt.

Cow and 3 of her progeny—1, Polleys Forsythe.

Class 21—Grade Ayrshire

Cow, 3 years old—1, Martin Reid.

Heifer, 1 year old—1, A. T. Reid; 2, Ray Lever, Leverville; 3, H. Freeman Lever.

Heifer Calf, 1 year and over 6 months—1, Ray Lever.

Heifer Calf, 6 months old and under—1, A. T. Reid; 2, Martin Reid; 3, Wm. Moffitt.

Grade Holsteins

Cow, 4 years and upwards—1, Wellington Thompson; 2, Albion Moffitt; 3, Manzer Moffitt.

Cow, 3 years—1, Albion Moffitt; 2, Melbourne Reynolds; 3, W. M. Moffitt.

Cow, 2 years old—1, Ralph Stewart, St. Stephen; 2, Harry Reynolds, St. Stephen; 3, Melbourne Reynolds.

Heifer, 2 years old—1, Fred Coffee, St. David; 2, Wm. Moffitt; 3, Seth Bartlett.

Heifer, 1 year old—1, Ralph Stewart; 2, Albion Moffitt; 3, Wilfred Todd.

Heifer Calf, 1 year and over 6 months—1, Howard Dinsmore, St. Stephen; 2, Wm. Moffitt, St. Stephen.

Heifer Calf, 6 months old or under—1, Harry Reynolds; 2, Albion Moffitt; 3, Joseph Thomas.

Herd Bull and 4 females—1, Albion Moffitt; 2, Wm. Moffitt.

Class 23—Grade French Canadian

Cow, 4 years or upwards—1, L. B. Mitchell, St. Stephen; 2, Richard Thomas, St. Stephen.

Cow, 2 years old—1, Edward Hanson, St. Stephen.

Heifer, 1 year old—1, Thomas Bartlett, Old Ridge.

Heifer Calf, 1 year, over 6 months—1, Wm. Moffitt.

Heifer Calf, 6 months old or under—1, Hazen Linton; 2, W. S. Poole; 3, Wm. Moffitt.

Class 24—Other Grade Dairy

Cow, 4 years—1, Wm. Moffitt.

Class 25—Fat Cattle, Any Breed or Grade

Best Beef Animal, not over 2 years—1, Frank Clark, Sr.; 2, Wm. Moffitt.

Pair Fat Cattle, any age—1, Jas. McAllister, Milltown.

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Courier Prize

Best Bull on Ground—A. T. Reid, Rollingdam, Silver Cup.

Bankers Association

Boy, 10 years old or under, taking care of calf 6 weeks prior to Fair—1, Hazen Reid, Leverville; 2, Torrence Stevens, St. Stephen; 3, Gerald Todd, Milltown.

SHEEP

Class 27—Shropshires

Ram, 2 shears and over—1, Howard Trafton, Moores Mills.

Ram Lamb—1, Howard Trafton.

Ewe, 2 shears and over—1, Howard Trafton.

Shearling Ewe—1, Howard Trafton.

Ewe Lamb—1, Howard Trafton.

Class 29—Cheviots

Ram, 2 shears and over—1, Jarvis McVicar, St. David.

Ewe, 2 shears and over—1, Jarvis McVicar.

Ewe Lamb—1, Jarvis McVicar.

Class 30—Leicesters

Ram, 2 shears and over—1, John Bell, Barter Settlement.

Shearling Ram—1, John Logan, Tower Hill.

Ewe, 2 shears and over—1, John Logan.

Ewe Lamb—1, John Bell.

Class 31—Any Other Pure Breed

Cotswool Ram—1, Fred Coffee, St. David.

Ram Lamb—1, Martin Reid.

Dorset Ewe, 2 shears and over—1, Martin Reid.

Shearling Ewe, 1, Martin Reid.

Class 32—Grades, Long Wool

Pair Ewes, 2 shears and over—1, John Bell.

Pair Ewes, shearling—1, John Logan; 2, John Bell.

Pen, 2 Ewes, 2 shearlings and 2 Ewe Lambs—1, John Bell.

Class 33—Grades, Medium Wool

Pair Ewes, 2 shears and over—1, A. T. Reid, Rollingdam; 2, H. Freeman Lever.

Pair Ewes, shearling—1, A. T. Reid; 2, H. Freeman Lever.

Pair Lambs, Ewes—1, H. Freeman Lever; 2, A. T. Reid.

Pen, 2 Ewes, 2 shearlings, and 3 Ewe Lambs—1, A. T. Reid; 2, H. Freeman Lever.

Fat Sheep, any Breed or Grade

Ewe, 1 year—1, Walter Howland; 2, Ray Lever.

Ewe Lamb—1, Walter Howland; 2, Frank S. Clark, Morres Mills.

Thomas Hetherington,
Judge.

SWINE

Class 35—Berkshires

Sow, Berkshire, 2 years—1, Polleys Forsythe, Little Ridgeton.

Sow, over 6 months, under 1 year—1, John Manuel, Mohanas.

Sow, under 6 months—1 and 2, Polleys Forsythe.

Class 36—Improved Yorkshire

Sow, over 1 year, under 2 years—1, Albion Moffitt

Breeding Sow with litter—1, Wesley Berry, Oak Bay; 2, Albion Moffatt.

Class 39—Any other Pure Breed

Boar, 2 years—1, Albion Moffitt.

Boar, over 6 months, under 1 year, (Durock)—1, W. S. Poole, St. Stephen.

Boar, 6 months, under 1 year (Polan China)—1, Albion Moffitt.

Sow, over 6 months and under 1 year—1, Albion Moffitt.

Breeding Sow with litter—1, Albion Moffitt.

Class 40—Fat Pigs

Fat Hog—1, Tom McDonald.

Class 41—Grades

Sow Gr. Poland China, over 6 months, under 1 year—1, W. S. Poole.

Sow, Gr. Yorkshire, under 6 months—1, Wm. Moffitt; 2, Melbourne Reynolds, St. Stephen.

Thomas Hetherington, Judge.

POULTRY

Clssa 42

Anconas Hen—1, 2 and 3, Howard Dinsmore, St. Stephen.

Buttercup Sicilian Hen—1 and 2, Cecil Johnson, St. Stephen.

Red Indian Game Hen—1, Wm. Moffitt, St. Stephen.

Houdan Cock—1, Cecil Johnson.

Hamburgs, Silver Spangled Cock—1, Wilbert McKay, St. Stephen; 2, Thos. Bartlett, Old Ridge; 3, Seth Bartlett, Old Ridge.

Hamburgs Silver Spangled Hen—1, Wilbert McKay; 2, Thos. Bartlett; 3, Lindsay Magoon, St. Stephen.

Leghorns, White Single Comb Cock—1 and 2, J. N. Ferguson, Fredericton; 3, Thos. Vanstone, St. Stephen.

White Leghorn Hen, Single Comb—1 and 2, J. N. Ferguson, Fredericton; 3 and 4, Lindsay Magoon.

Brown Leghorn, Single Comb Cock—1, H. M. McMonagle, Fredericton; 2, W. H. Norwood, Milltown; 3, Clarence Maxwell, St. Stephen.

Brown Leghorn, Single Comb Hen—1, H. M. McMonagle, Fredericton; 2, Clarence Maxwell.

Black Leghorn, Single Comb Hen—1, W. S. Stevens, St. Stephen.

Brown Leghorn Rose Comb Cock—1, Clarence Maxwell.

Brown Leghorn Rose Comb Hen—1, Clarence Maxwell.

Black Minorca Rose Comb Cock—1, Edward McWha, St. Stephen.

Black Minorca Rose Comb Hen—2, Edward McWha.

Buff Orpington Hen—1, Ernest Klein, Milltown; 2 and 3, Edward Hacker, Milltown.

Barred Plymouth Rock Cock—1, W. H. Norwood; 2, E. H. Barter, St. Stephen.

Barred Plymouth Rock Hen—1, Millard Scott, St. Stephen; 2, H. N. McMonagle; 3 and 4, E. H. Barter.

White Plymouth Rock Cock—1, Howard W. Dinsmore.

White Plymouth Rock Hen—1, Ernest Klein; 2, Howard Dinsmore; 3, C. Herbert Maxwell.

Plymouth Rock Partridge Hen—1, Roy Berry, St. Stephen.

Columbia Plymouth Rock Hen—1 and 2, Gustave Klein, Milltown; 3, Ernest Klein.

Rhode Island Red, Single Comb Cock—1 and 3, Walter Bailey, Fredericton; 2, Aubrey C. Stevenson, St. Stephen; 4, F. M. McCready, St. Stephen.

Rhode Island Red, Single Comb Hen—1 and 2, Walter Bailey; 3, Aubrey C. Stevenson; 4, F. M. McCready.

Rhode Island Reds, Rose Comb Cock—1, Aubrey C. Stevenson.

Rhode Island Red, Rose Comb Hen—1, H. N. McMonagle; 2, Aubrey Stevenson; 3, Ralph McCready, St. Stephen.

Wyandottes, Silver Laced Hen—1, Ernest Klein; 2, Gustav Klein.

White Wyandotte Cock—1, Percy L. Morgan, Devon; 2, R. W. Whitlock, St. Stephen.

White Wyandotte Hen—1, Percy L. Morgan; 2, J. W. Stietsels, Devon; 3, Thos. McClure, St. Stephen; 4, C. Herbert Maxwell.

Partridge Wyandotte Cock—1, Ernest Klein; 2, H. M. McMonagle.

Partridge Wyandotte Hen—1, Gustav Klein; 2, H. M. McMonagle; 3, Ernest Klein.

Columbia Wyandotte Cock—1, Gustav Klein; 2, Ernest Klein.

Columbia Wyandotte Hen—1 and 3, Ernest Klein; 2, Gustav Klein.

A. O. U. Brown Red Game Cock—1, Millard Scott, St. Stephen.

White Crested Black Polish Hen—1, H. M. McMonagle.

A. O. U. Brown Red Game Hen—1 and 2, Millard Scott.

Class 43—Chickens

Anconas Cockerel—1, Lindsay Magoon; 2, Stanley Budd, St. Stephen.

Anconas Pullet—1 and 3, Lindsay Magoon; 2, Stanley Budd; 4, C. C. Carroll, St. Stephen.

Partridge Cochins Cockerel—1, Mrs. Sam. Barnford.

Dark Cockerel Cornish Indian Game—1, Harmon McComb, St. Stephen.

Dark Pullet, Cornish Indian Game—1, Harmon McComb.

Hamburg Silver Spangled Cockerel, S. C.—1, Ernest Klein; 2, Thos. Bartlett.

Hamburg Silver Spangled Pullet, S. C.—1, Ernest Klein; 2, Thos. Bartlett.

White Leghorn Cockerel, S. C.—1, C. C. Carrol; 2 and 4, J. M. Ferguson; 3, H. M. McMonagle.

White Leghorn S. C. Pullet—1, H. M. McMonagle; 2 and 3, J. N. Ferguson; 4, Rev. W. Tomalin.

Brown Leghorn Cockerel—1, Frank Clark; 2, Wm. Moffitt; 3, W. H. Norwood.

Brown Leghorn Pullet—1, Frank Clark; 2, Wm. Moffitt.

Black Minorca S. C. Cockerel—1 and 2, H. M. McMonagle; 3, Wilbert McKay.

Black Minorca S. C. Pullet—1 and 3, H. M. McMonagle; 2, Wilbert McKay.

Buff Orpington Cockerel—1 and 2, J. N. Ferguson; 3 and 4, Gustav Klein.

Buff Orpington Pullet—1 and 2, J. N. Ferguson; 3 and 4, Gustav Klein.

White Orpington Cockerel—1 and 2, Mrs. A. R. Livingston, Moores Mills.

Barred Plymouth Rock Cockerel—1, 2 and 3, E. H. Barter; 4, Mrs. Sam Bamford.

Barred Rock Pullet—1 and 2, Millard Scott, St. Stephen; 3 and 4, H. M. McMonagle.

White Plymouth Rock Cockerel—1, 2 and 3, Walter S. Bailey, Fredericton; 4, Howard D. Dinsmore.

White Plymouth Rock Pullet—1, 2 and 3, Walter S. Bailey; 4, Stanley Budd.

Plymouth Rock Partridge Cockerel—1, Robt. P. Allen, Fredericton.

Partridge Plymouth Rock Pullet—1 and 2, Roy C. Berry.

Rhode Island Red Cockerel—1, H. M. McMonagle; 2, Walter Bailey; 3, Aubrey Stevenson; 4, P. M. McCready.

Rhode Island Red Pullet—1 and 3, Walter S. Bailey; 2, H. M. McMonagle; 4, P. M. McCready.

Rose Comb Rhode Island Red Cockerel—1, H. M. McMonagle.

Rose Comb Rhode Island Red Pullet—1, H. M. McMonagle.

White Wyandotte Cockerel—1 and 3, Geo. W. Brown, Fredericton; 2, H. M. McMonagle; 4, Stanley Budd.

White Wyandotte Pullet—1, Mrs. Geo. W. Brown; D etaoin etaoin etaoi Myrtle Richardson, St. Stephen; 2 and 3, Geo. W. Brown; 4, H. M. McMonagle.

Partridge Wyandotte Cockerel—1, Gustav Klein; 2, Ernest Klein; 3, Robt. P. Allan.

Partridge Wyandotte Pullet—1, Robt. P. Allan; 2, Gustav Klein; 3, Ernest Klein.

Columbia Wyandotte Cockerel—1 and 3, Ernest Klein; 3, Gustav Klein.

Columbia Wyandotte Pullet—1, Ernest Klein; 2, Gustav Klein.

Brown Red Game Pullet—2, Willard Scott.

Breeding Pen White Leghorns—1, J. N. Ferguson; 2, Thos. Vanstane; 3, Rev. W. Tomalin.

Breeding Pen Brown Leghorn—1, W. H. Norwood; 2, Frank Clark, Sr.

Breeding Pen Buff Orpington—1, Edward Hacker; 2, Archie McCready, St. Stephen.

Breeding Pen Rhode Island Red—1, Aubrey Stevenson; 2, F. M. McCready.

Breeding Pen Silver Laced Wyandottes—1, Gustav Klein.

Breeding Pen White Wyandotte Fowls—1, J. W. Stielsels; 2, Louis McAllister.

Columbia Wyandotte Breeding Pen—1, Ernest Klein.

Chicks Breeding Pen

Anconas—1, Stanley Budd.

White Leghorn Single Comb—1, J. N. Ferguson; 2, Thos. Vanstone; 3, Rev. W. Tomalin.

Brown Leghorns—1, Frank Clark, Sr.

Buff Orpingtons—1, Gustave Klein; 2, Lindsay Magoon; 3, Ed. Hacker.

White Orpingtons—1, Mrs. A. R. Livingstone.

Barred Rocks—1, Millard Scott; 2, Louis McAlister.

Hamburgs—1, W. S. Bailey.

R. I. Reds—1, W. S. Bailey; 2, Aubrey C. Stevenson; 3, H. M. McMonagle.

Wyandotte White—1, Mrs. Myrtle Richardson; 2, Percy L. Morgan, Devon; 3, J. W. Stielsels, Devon.

Partridge Wyandotte—1, Ernest Klein; 2, Gustav Klein.

Columbia Wyandotte—1, Ernest Klein.

(Continued on page 608)

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If you are troubled with weak, tired feelings, headache, backache, bearing down sensations, bladder weakness, constipation, catarrhal conditions, pain in the sides, regularly or irregularly, bloating, sense of falling or misplacement of internal organs, nervousness, desire to cry, palpitation, hot flashes, dark rings under the eyes, or a loss of interest in life, write to me to-day. Address:

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At the same time, it is light in weight and easy on the feet, and remarkable value for the price.

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Write for free booklet describing Chromoil Tanned Leather and its merits.

HORTICULTURE

DRIED FRUITS

Sugar is one of the most remarkable preservatives known and when fruits are dried the natural sugar in them will prevent decay if all the moisture is evaporated and they are kept in a dry place.

Apricots, peaches, apples, even pears and small fruits are now evaporated and offer one solution for saving fruits where there is a lack of cans or jars. Hot sunshine or a patent evaporator is needed for this method and even our government experts who seem to think anything possible for our women to accomplish, admit that sun drying of fruits, aside from apples and pears is scarcely practicable for the home woman.

But the use of dried fruit is a good way to supply the body with many necessary elements of diet through the winter, moreover one pound of dried fruit is equivalent to four pounds of fresh fruit when it is properly cooked so the economy is well worth while.

If you want to try your hand at fruit drying spread the freshly picked fruit on a clean strip of muslin and cover it with netting, then set it in the hot sunshine. The fruit must be turned often so that it will dry evenly and the fruit must be put out in the sun daily until well dried.

If you wish to utilize the heat that rises from the kitchen stove for drying, or if a wet bit of weather comes before the outdoor process is completed, you can swing a home made drier from the kitchen ceiling so it will hang over the range or it may be made to fit into the oven.

All vegetables and fruits must first be blanched before being dried. To blanch small fruit put them in a wire basket or cheese cloth bag and plunge it into boiling water. Drain well and put to drying and see that no dew, drain or steam wets the food.

To make a drier that will last several seasons and may be used in the oven, out of doors or over tht stove, take a strip of galvanized, not brass nor painted netting and tack to a frame made of lath or strips of wood. Another framed netting may be made to fit over this if you like.

Cooked fruits require less sugar than fresh fruits to sweeten them and sometimes the fruit is to be used in puddings or in some similar way and a very sweet fruit is not needed, so canning without sugar is a sensible method.

If it is not convenient to make your jellies now on account of the cost of sugar and the scarcity of containers save the fruit juices, boil them down one half, bottle them and next winter make the jelly as you need it. The fruit juices keep splendidly and the jelly is quite as good as though made now. Pudding and cake sauces may be made from the fruit juices also and since we are not canning water this season but condensing our canned stuff so each jar is well filled with solids you may be glad to have the rich, boiled fruit juice to add to your pies or table fruit.

GIVING THE BEES ROOM

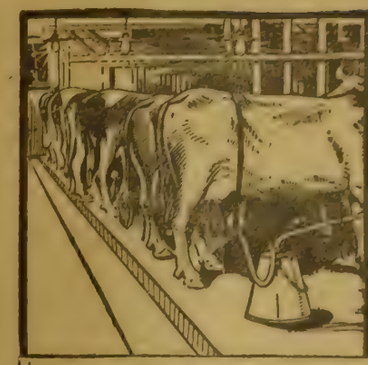
Many beekeepers make a serious mistake in failing to give their bees enough storage room on time. The addition of this room at just the right time for the storage of the season's crop of honey requires good judgment and an intimate knowledge of the nectar resources of the particular locality and season. Very few people realize that in many localities the entire season's crop of surplus honey is gathered and stored within a period of a few weeks. It is exceedingly important during these few weeks that the progress of the work in the supers be watched closely and additional room be given as rapidly as the bees can use it.

The usual procedure by the inexperienced beekeeper is to put on a super of 25 to 50 lbs. capacity during early spring and give the subject no further thought until late summer or autumn. If the super is found to be full of honey at that time, it is removed and probably an empty one put in its place. In many cases this empty super is given long after there is any possibility of any further storage of honey during the season and if comb-honey is being produced the sections and foundation are ruined for further use by being on the hives during a time when no honey is being stored.

During a poor season a single super for each colony may furnish an abundance of room for the storage of the entire crop of hney but, during a good season, if additional supers are not given as needed, the major portion of the crop is lost to the beekeeper simply from lack of storage space.

In comb-honey production, the standard supers contain when filled only about 25 lbs. of honey. During a rapid honey flow such as occurs some seasons, sufficient progress is frequently made in each newly added super to justify the addition of another, every three or four days. With such a honey flow several supers may be completely filled with honey before any of it is ripened and sealed and the hive may have therefore as many as 5 or 6 supers at one time. Under such conditions, if the bees are compelled to ripen and seal the honey in the first super before a second one is given, most of the possible honey crop is lost to the beekeeper, the bees being compelled either to swarm or to loaf during the height of the storing season. Such an abundant honey flow does not by any means occur every year but when it does occur, the beekeeper should be prepared to take full advantage of the opportunity.

Bees need so little attention during the greater portion of the year that it is difficult for the inexperienced beekeeper to realize that for the best results almost daily attention is needed during the few days or weeks known among beekeepers as the honey flow.



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DAIRYING.

GOOD DAIRY COW EASILY PICKED OUT; WHAT TO LOOK FOR

The business of dairying has rapidly become commercialized during the last few years owing to the competition. While the prices for dairy products have increased in value during the last few years they have not increased in value in the same proportion that labor and feed have increased. For these reasons it requires a skillful business man at this time to milk cows at a fair profit.

Time Consumed in Milking

The average farmer milks his cows over seven hundred times each year and consumes on an average better than twenty-seven days in doing so. Is it any wonder then that the average farmer does not like to keep cows when he feels that they are not making him a good profit when it takes so much time and labor to care for them?

As each cow in the herd is different from every other one she must be fed and cared for in a different manner perhaps than the others to produce at her best. It requires judgment and skill to be able to feed and care for a cow so that she will produce the limit of her capacity and this capacity can only be acquired by careful, conscientious study and a close application of this knowledge in practice. Each cow should be cared for just as though she were a highly developed piece of machinery and then she will produce economically and profitably. In selecting cows for their productive ability, there are several essential features that usually show on the exterior of the cow and the man that buys a cow should be able to distinguish the most of these if he would secure a good one.

Characteristics of a Good Cow

There are a few characteristics that are found in every cow that is a good producer, being more or less pronounced according to the cow's productive ability. A cow to be a producer must have a good constitution, capacity to eat and digest large quantities of food, nervous temperament, which means that she must be an active worker and not a loafer, circulation means that she must have a large and well developed supply of blood flowing through the udder, from which the milk is secreted, and by ability we mean the power the cow has of secreting milk.

In selecting a cow it is always best to view the cow from the side and from some little distance, while she is standing with her side towards you, or while someone is leading her by you, as you are able in this way to get a very good impression as to her constitution and capacity, and do not forget that your first impression is usually the best. It is then well to walk around the cow to the other side, as cows do not always look the same from both sides, and then walk to the front, where a good view of the head, horns, eyes, and chest and barrel may be seen, and then step to the rear of the cow, where the udder and tail and width of hips may be seen. Then walk by the cow with one hand travelling along the neck and back, where the condition as to fat may be observed, while with the other hand the texture of the skin may be determined by grasping it and pulling it outward from the body. Next, milk the cow, or have someone else do so, and examine the udder carefully.

Some Good Indications

A soft, pliable, elastic skin indicates a good digestive apparatus, while a dry, harsh, clinging hide indicates poor digestion.

A cow, to be a good producer, must be a worker. She can not be a loafer. We have termed this nervous temperament, and we mean by that a highly developed nervous system that produces constant activity of the animal. A cow that is chewing her cud hwen she is not eating, and one that is always ready for her meals, and that always takes note of her surroundings. This is indicated by a large, wide forehead that slopes to the poll, and width between the eyes; also by prominent hips and ribs, and a lean, open-jointed backbone that is free from fat.

The udder of the high-producing cow is usually a network of veins and blood vessels, and the milk veins passing alon the abdomen are large and tortuous. The milk wells are larger and more numerous than in the light producer. The blood that flows through the udder determines the milk flow, and the udder that is attached high on the back and far forward along the abdomen has greater surface that is supplied with these vessels, and the flow of milk is correspondingly heavy. The thighs should be free from fat and form an arch, the widest part of which should be on the level with the attachment of the udder, which gives it plenty of space.

While it is always desirable to combine with the facts already given, symmetry of form and beauty, this is not always possible, and besides, it is no indication of greatness of production, as many of the best cows we have ever seen are more or less deficient in these two characteristics.

Size is not always an indication of the probable value of the cow as a producer, but it is many times taken as such, an indication by the inexperienced. Color is only a breed index, and is of consideration only in that light.

G. H. CONN.

THE USES OF SKIM MILK

A quart of whole milk weighs 34⅛ ounces, or a little more than 2 lbs., nearly 30 ounces of which is water. The remaining solid matter contains very useful food materials. Slightly more than 1 ounce is protein, a very important muscle builder, and one of the most expensive of the substances needed by the body. About 1 1-3 ounces consists of butterfat, and 1 2-3 ounces of milk sugar. These two materials are used by the body to provide it with energy, must the same as fuel is used to produce steam and power in the engine. The quart of milk also contains about one-quarter of an ounce of mineral matter, small quantities of which are very necessary for the growth and general upkeep of the body.

As the fat is separated to form the cream some of the protein, milk sugar, and mineral matter go with it, but by no means all. The protein remains; therefore a quart of separator-skimmed milk provides slightly more of this indispensable and costly material than does a quart of whole milk. It contains in all about 1 1-5 ounces of protein, 1¼ ounces of milk sugar, about one-quarter of an ounce of mineral matter, and a little fat, the last named depending, of course, upon the completeness of the separation. This means that, quart for quart, it would furnish the body with slightly more protein and milk sugar than whole milk does, and practically the same quantity of mineral matter, though far less fat. In other words, as a tissue builder it is equal to whole milk, and as an energy yielder not nearly so good. Since, as a rule, the tissue-building materials are contained in the more expensive foods (meat, eggs, etc), and the energy-yielding materials can be largely provided by cheaper foods (bread and other cereal foods, fats, potatoes, etc.), it seems doubly wasteful not to use skim-milk.

The uses of skim-milk are many and in cooking it adds to quality as well as to food value. If used in place of water in bread it adds about as much protein to one pound of bread as there is in an egg. Skim-milk used in place of the usual half milk and half water, of course, increases the quantity of protein in a loaf by the amount that is contained in half an egg. The saving involved in the use of skim-milk in bread, however, is small compared with that involved in its use in the preparation of cereals, for, while in bread the milk is only about one-third of the flour, in the preparation of cereals the volume of milk is usually three or four times that of the cereal. To cook a cupful of cereal in three cupfuls of skim-milk instead of three of water, adds as much protein as that contained in three eggs.

WHEN MILK IS MADE A DISEASE SPREADER

The kind of milk vessels one uses is very important in maintaining cleanliness about the dairy. Tinware with a few seams offers the least number of places for contamination to lodge, and makes the work of keeping the vessels clean much lighter. Seams flushed with solder are much more easily cleaned and offer fewer breeding places for bacteria than unflushed ones. If you already have pails and pans with acute corners and open seams, they can be easily rounded by heating a stick of solder and running the melted metal in the cracks. The time and labor will be quickly repaid in the ease and quickness with which they can be washed.

Tinware kept right and perfect is longer lived and more sanitary than rust covered containers. Rust spots give places for decaying material to lodge and germs work their way more easily into the soft metal.

Keeping the vessels used in handling milk as nearly sterile as possible, is a big advantage in supplying pure, sweet milk. Milk allowed to dry on the utensils is hard to remove and encourages more to stick to it. Rinsing with hot water hardens the fresh albumin onto the tin and makes

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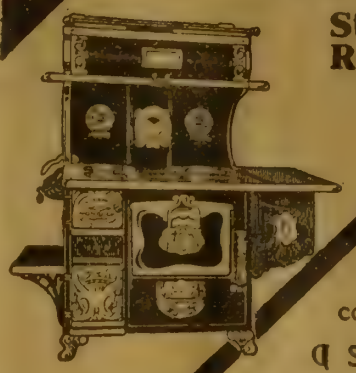

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it harder to remove than ever. A thorough rinsing with cold or slightly warm water before hot water is used, will remove a large part of the milk and prevent much of the burning on. Then scrub with a brush using moderately hot water and some washing powder. If the alkali powder is too strong it will tarnish the metal and give it a dull appearance. This does not harm the value of the pail except that it is harder to determine when clean. A brush is used in preference to a cloth because it digs out the crevices more thoroughly. A cloth soon becomes contaminated, foul smelling, and is in itself a germ spreader.

After washing rinse with scalding hot water and turn upside down to drain. Air is very necessary in keeping utensils sweet and pure, that are continually used for milk, so do not place the lids on milk cans until they have been exposed for some time and are entirely dry. Do not forget that sunlight is the best and cheapest sterilizer. Cans exposed to its light each day will seldom cause trouble.—C. A. G.

IS IT NOT CURIOUS?

—A grade cow, eight years old, near Woodstock, Ont., that freshened last November, has given in eight months 13,092 pounds of milk, average test over 3.2, spot cash value $288.57; she is still giving 34 pounds of milk per day, and is due in November again. Such a cow is a source of perennial pride to her owner; he weighs the milk from each cow he has, because he finds it pays.

But is it not curious that many dairymen never bother to weigh, and so remain quite hazy as to each individual's performance? It is curious, too, when you come to think of it, that so many are content to bother with a herd not one f which has any remote chance whatever of giving in a year even one-half of what this fine cow gave in eight months.

The immense possibilities for an increased flow of milk from cows selected on their actual records, bred right, fed well and handled sensibly, seem curiously enough, entirely undreamed of as yet by some dairy farmers in all provinces.

Milk record forms will be gladly supplied free of charge by the Dairy Division, Ottawa, to any one curious enough and enterprising enough to find out what each co wdoes actually produce in return for all she eats. Make each cow pay. C. F. W.

LIGHTING A COW BARN

The best lighting in a rectangular barn is secured when the barn extends north and south. Four square feet of glass per cow provides an amount of light commonly accepted as a standard. A wall containing a number of windows costs but little more than a wall of lumber or masonry.

Many bank, or basemen, barns are insufficiently lighted. Where basement barns are built on a side hill, the wall of the sfirt story that is next to the bank should extend above the ground far enough to allow windows to be placed in it, or the bank should be excavated. The windows should be placed in the upper part of the stable wall rather than the lower, even on the exposed sides of the barn, in order to admit sunlight farther into the interior, and to lessen window breakage by the cows. The windows should be placed vertically rather than horizontally, and located so that there is an even distribution of light.

CHURNING TEMPERATURES

A cream rich in butterfat will churn more easily than one of low test, and so requires a lower churning temperature for best results. Low temperatures are favorable for a firm butter, and this is why a cream rich in fat is so desirable, as it allows lower temperature for churning. Generally speaking, a cream testing about 30 per cent and yielding about 3½ lbs. of butter per gallon gives best results. The following table will serve as a guide, all other conditions being favorable:

Test.	Spring and Summer Deg. Fahr	Fall and Winter Deg. Fahr.
30%	48-54	50-56
18%	58-60	58-64
24%	53-57	54-58

The amount of cream in the churn and the speed of the churn also affect the churning. The fuller the churn the longer it will take. The churn should never be more than half-full. The speed of the churn should be such that the cream receives the greatest amount of agitation or concussion.

DAIRY COWS HAVE INDIVIDUALITIES

All dairy cows are not by any means the same. There is the difference between gain and loss, and then there is the inconceivable yield with its proportionate profit. There is the 28,000 pound cow, with her extraordinary profit, the 2,000 pound cow, with her loss, and there is the 8,000 pound cow, with her fair gain to her owner. Where is the difference? The poor or profitless cow is a cow to be sure, but let us be thankful that this kind is growing fewer and fewer. On the other hand, take the cow with the ability to give 10,000 to 12,000 pounds of milk in a year, and we have a cow that is a paying proposition, and of a standard that is within the reach of every progressive dairyman.

There is no doubt but that the propensity to give large quantities of milk is transmissible. There is no doubt but that the power to make and give milk can be increased and strengthened if the propensity be present. In athletics a good runner improves with training. In racing, a horse must needs be trained to improve the gait and to increase the speed. A race horse is also fed and cared for that he may be speedy. Why then cannot a cow by proper feeding, training, and care, be made to do that for which she was born? And if this or any other characteristic is developed in the dam it stands to reason that she will the more likely transmit it to her offspring.

Individuality in a cow is evidenced by superior development in all her parts, and the reappearance of these traits in her offspring. The prepotent sire imprints his individuality on his offspring with unmistakable exactness. Moreover, the individuality of the owner is shown in the cows of his herd. If we see a herd that is well cared for, and all of whose members bear resemblance to each other, we conclude at once that the owner has an ideal cow in mind, and that he is trying to build up his herd to a certain type.

Often we find a herd in which there is an old cow of superior merit, and along with her we find perhaps three or four or even more all having the same characteristics. The old one is the dam, granddam, great grand-dam, etc., of these, and her characteristics have been handed down to her offspring. If one has an animal of noteworthy qualities it will pay him to keep her and attempt to get more like her from her. A herd that as a whole shows a herd individuality is one to be greatly proud of if it is of a high grade.

These best dairy cows are those that will return the most value of milk for food consumed.

Milk, unlike many other products from the farm, must be dealt with according to fixed rules or loss will come quickly.

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LIVE STOCK.

TUBERCULOSIS IN HOGS

Not everyone is aware that tuberculosis will affect hogs as well as cattle. While we in Canada have not found this disease general among hogs, it is nevertheless true that in certain districts it exists and is making headway. Buyers for packing houses can numerate certain districts in Western Canada from which hogs will not be bought for slaughter on account of the general prevalence of this disease. It is, therefore, in our interests to know as much about this disease as possible.

Farmers' Bulletin 781 recently published by the United States Department of Agriculture on tuberculosis of hogs, states that of the hogs slaughtered during 1916 at establishments under federal inspection, which includes all important ones, 9 per cent were found to be affected with tuberculosis. While this is the general average for the entire country, it is noticeable that a much larger per cent of diseased hogs comes from some sections than from others. For example, hogs from some of the southwestern states, such as Arkansas, Oklahoma, and Texas, are remarkably free from the disease. This is, doubtless, due to the fact that hogs in that section are pasture fed to a very large extent.

On the other hand, corn belt hogs and especially those from dairy states, are altogether too frequently affected with tuberculosis. While only 2.4 per cent of the 451,478 hogs slaughtered at Fort Worth, Texas, during 1915 were tuberculous, 8 per cent, 10.9 per cent, 12.1 per cent, and 25.1 per cent respectively of those slaughtered at four cities in a leading dairy state showed tuberculous lesions.

From this it is evident that the subject is of importance to dairy farmers and especially so since the above mentioned bulletin reports that packing houses are beginning to discriminate against hogs from localities known to be badly infected.

The most frequent infection of hogs occurs through the digestive tract and is intimately related to tuberculous cattle. In those localities where a large number of hogs have been found affected with the disease, investigation showed that most of the hogs in question had been fed upon unpasteurized skimmilk or occasionally that the carcass of some animal succumbing to the disease had been thrown to them to dispose of. Another source of infection is the practice of allowing swine to run behind tuberculous cattle. Still another is the infection of young pigs through the milk of a tuberculous sow, but to dairymen, at least, the first is of most importance.

Experiments have been conducted to show that milk from cows affected with tuberculosis will produce the disease in swine. When hogs were fed such milk for only 3 days and held for 107 days more, 83.3 per cent of them showed tuberculous lesions when slaughtered. Of those fed tuberculous milk for 30 days and then allowed to live 50 days longer; 100 per cent developed generalized tuberculosis.

Nor is this true of experimental cases only. In one instance a shipment of 74 hogs showed tuberculosis in 61 and investigation brought out the fact that the hogs had been fed skimmilk from a creamery in a nearby town. The separator slime from the creamery contained tuberculous bacilli.

Accordingly, unpasteurized skimmilk from creameries is not generallf a safe feed for hogs. Neither is unpasteurized milk from the farm separator safe unless the herd is free from the disease. The creamerf skimmilk is more dangerous only because it is the mixed product from numerous herds, any one of which may be infected, and because it in turn may be fed to a number of lots of hogs rather than one, thereby doing greater damage.

One remedy for this is, of course, to feed only pasteurized milk but even that will not suffice because hogs working over manure from tuberculous cattle will contract the disease. The only sure remedy, then, is to clean up the dairy herd, make sure it is kept clean by testing regularly, and get rid of any brood sows that may have the disease.

HOW TUBERCULOSIS SPREAD IN HERD BY CLOSE CONTAMINATION

At a number of the recent meetings of men interested in live stock, the question of tuberculosis has been discussed. The subject of ventilation in one which is always brought up in connection with such a discussion.

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The statement was made at these meetings by men, who are very prominent in live stock circles, that by proper ventilation the spread of tuberculosis in our herds could be greatly retarded; in many instances the inference has been made that the spread of the disease could be almost entirely stopped if the ventilation of the stables was what it should ge. It seems to the writer that a mistake is being made in this regard, and that many breeders and farmers will be led astray by such statements. There is no question but that barn ventilation should receive the earnest attention of the farmer, and that he should make every attempt possible to keep the air of his stables in a satisfactory condition, for certainly this will tend toward the maintenance of good health in his animals. It is likewise certain that when an animal is in a thrifty condition it is less likely to acquire a disease than if it is weakened by any cause whatever.

The most thorough ventilation can, however, have but little influence in preventing the spread of tuberculosis. The organisms causing the disease are eliminated from the body of the diseased animal in material that is coughed up from the lungs, and which in part is ejected from the mouth during the act of coughing. The infectious material, thrown into the air, may float for a short period of time. Thus opportunity is presented for the organism to be carried from one animal to another. The material will also be brought in contact with the mangers, and when feed is placed in the mangers there is, of course, opportunity for the infectious material to be distributed. Allowing water to flow through the mangers, and processes of cleaning likewise serve to spread the disease-producing organisms. The organisms are also eliminated from the body in the feces. Some portions of this material become dry and ground into such fine particles that in cleaning and bedding the stables the organisms find their way into the air, and may thus be spread throughout the stable.

The material that is coughed up from the lungs of the animal serves to contaminate the mouth and tongue, and when the animal licks herself her coat is very likely to become contaminated with the tubercule organism. When other animals are brought in direct contact with her, as will happen in the yards and pastures, there is ample opportunity for the disease to spread in the herd.

It will be seen that there are certain factors in the stable, operating to spread the disease, that are not kept in the stable. For example, the chance of the disease organisms being spread through the air, when they have found their way into it through the coughing of the animal or in dust, is present in the stable, while it is almost wholly absent when the animals are out of doors. The contaminated manger is another stable danger which is absent when the animals are on pasture, since there is very little likelihood of organisms, which have come in contact with the grass, persisting for any length of time in the direct sunlight.

The only direct retarding influence that vetnilation of the stable can have is through the partial removal of organisms which may be present in the air. It can have no influence as far as contaminated mangers are concerned. From our present knowledge of the way in which tuberculosis is spread from one animal to another, it seems certain that stable ventilation will be a very minor factor in retarding the spread of the tubercle bacilli from animal to animal and that the man who places confidence in it as a means of preventing the spread of tuberculosis in his herd is certain to be disappointed.

It seems to the writer that everyone should know what any particular agent or process can do for him and he should likewise be as familiar with what it cannot do for him. So adequate ventilation of the stable is certainly desirable from every point of view, but it will not prevent the spread of tuberculosis in a herd, and it is questionable whether it will have any measurable influence in retarding the distribution of the disease. The rapidity with which this disease spreads among animals which are kept out of doors constantly is evidence of th esmall importance of the factors that are operative only in the stable.

Proper stable ventilation is required for the conservation of the health of live stock. Lack of proper ventilation will tend to make cattle less resistant to disease because it diminishes their bodily vigor. No argument can be advanced for not providing proper ventilation of stables. However, in attempting to prevent the spread of tuberculosis, men cannot rely alone upon ventilation. Ventilation should be accompanied by an inspection of the herd and the constant use of the tuberculin test and the elimination of all reacting animals.

WATCH FOR ILLNESS AMONG THE LIVE STOCK

It should be the rule on every farm to watch the live stock carefully to detect any appearances of illness. The stock should be watched at feeding time, and if any animal shows signs of not eating naturally, it should be immediately isolated from the remainder of the herd or flock. Not all animal diseases are contagious, but many of them are, and it is well not to run any risks. Even if there is no danger of spreading disease, a sick animal stands a much better chance for recovery, if placed where it will not be annoyed by the other stock, for it is the nature of almost any animal to drive and injure another animal that does not act naturally. It is probably brute instinct that causes an animal in a herd to want to isolate a sick animal. It seems sometimes the well animal is more thoughtful than is the owner of the herd, for he is not so quick to detect an ill animal and slower yet to plan for its removal from the lot. The same rule holds good with the poultry and many a case of contagion can be checked by quickly isolating the sick birds.

Watch the little pigs for sore mouth. If ulcers are found isolate the litter and treat the affected pigs. Tincture of iodine on a cotton swab used daily will be valuable. If the disease is far advanced the pig should be destroyed and the carcass burned. Write the Colorado Experiment Station if you are having trouble. Let us conserve the little pigs.—I. E. Newsom, Colorado Agricultural College.

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THE HORSE

IN TREATING SORE SHOULDERS USE SIMPLE REMEDIES

From the time farm horses are put to work in the spring until all farm work is finished in the fall, thousands of work horses suffer with sore necks and shoulders. These sores not only interfere with the general usefulness of the animals, but frequently leave a collar boil or fistulous withers, which usually demands a surgical operation and lays the horse off for a month or more.

Causes

The causes of sore necks and shoulders may be classed under two heads, namely; sores caused by pressure, and those caused by friction.

Sores caused by pressure result from the pressure of a load on the wrong part of the neck or shoulders. This occurs when the collar is too tight, when the draught is too high or too low, when the collar or pad has an uneven surface, or when the horse carries a heavy weight like a wagon or binder tongue on his neck.

Other sores are the result of the rubbing of the collar on the neck or shoulders. This may occur when the collar is too large. Then with every step there is a tendency for it to slip and slide on the neck and shoulders and a sore is inevitable. Collars may fit fairly well but when the horses carry a rapidly vibrating tongue like that of a mower or binder, the sores are more easily produced.

Prevention

Prevention is simple and not difficult to carry out. The collar must fit. The draught must be properly adjusted. The bearing surface of collar and pad must be kept clean. Horses having sore necks or shoulders must not be worked on mower or binder unless provision is made to remove vibrations and weight from the tongue. The irritating effects of dust and sweat may be overcome by removing the collars at noon and sponging them and the horses' necks with clean cold water. This should also be done every evening when the harness is removed. Colts and idle horses must have their necks and shoulders gradually hardened, the process extending over a period of several weeks. When a horse is in good physical condition his neck and shoulders are fuller than when he is thinner, consequently if a collar fits when a horse is in good condition, it is likely to be too large when he has been worked several weeks. Some careful horsemen find that it pays to have collars of two sizes, using the large collars until the necks shrink, and then using the small size. Other good horsemen use pads to reduce the size of the collar when the neck shrinks. Still others make a practice of allowing their teams to rest a few minutes several times each half day, and while doing so slip the collars far enough forward on the necks to allow both collars and necks to cool and the shoulders to rest. This is an excellent practice and is worth adopting.

How to Fit a Collar

The collar should fit the horse's neck. It is impossible to fit the neck to the collar. It should be wide enough throughout its entire length so that it will not pinch the neck. There should be room enough to pass your finger tips from the top pad to throat between collar and the hores's neck. It should be long enough to allow the palm of the hand to be slipped under it at the throat.

When the proper size of collar has been selected, it should be fitted to the neck of the horse that is to wear it. The best way to do this is to soak the collar in clean water for a short time, and then while it is still soft and pliable put it on the horse that is to wear it. Work him wearing this wet collar for several hours, so that it will be fitted to the contour of his shoulders. Then remove the collar and allow it to dry thoroughly, after which it should not be worn on any other horse.

Medical Treatment for Sore Necks

The simplest remedies usually yield best results, providing the points just outlined receive proper attention. Common white lead ground in linseed oil, the kind used for mixing paint, is very good. Apply a small quantity of it every evening. Oxide of zinc ointment is also very satisfactory, when applied every evening. A lotion composed of six drams of lead acetate, and an equal amount of zinc sulphate in one pint of water makes an excellent wash for sore necks and shoulders. Stable hygiene has an influence on the healing process. Clean, light, airy stables, free from dampness and the fumes of decomposing manure are much more favorable to the healing process than stables in the opposite condition.

In a word, prevent all sore necks and shoulders possible. This is better than a cure. Secure prompt healing of those cases that are not prehealing so favorable that nature has ventable by making conditions for healing so favorable that nature has but one course to follow, namely to heal promptly and completely.

C. C. LIPP.

CEMENT FLOOR FOR HORSE BARN

I have had cement floors in my stable for three or four years, and during that time have kept horses of different ages and dispositions; mares in foal and young colts, and am well satisfied with this floor. I have taken colts off summer pasture and kept them on the cement floor during winter with the best of results. Even at the first there was no stocking or swelling of the ankles. I now have a mare that paws the bedding back and stands directly on the concrete. She does this most of the time, but is not made stiff or injured in any way that I can see. This mare is troubles with dry hoofs, and some blacksmiths claim the concrete causes this, but as I have known the mare ten years, and her hoofs were the same when she stood on a plank floor, I see no reason to blame the concrte.

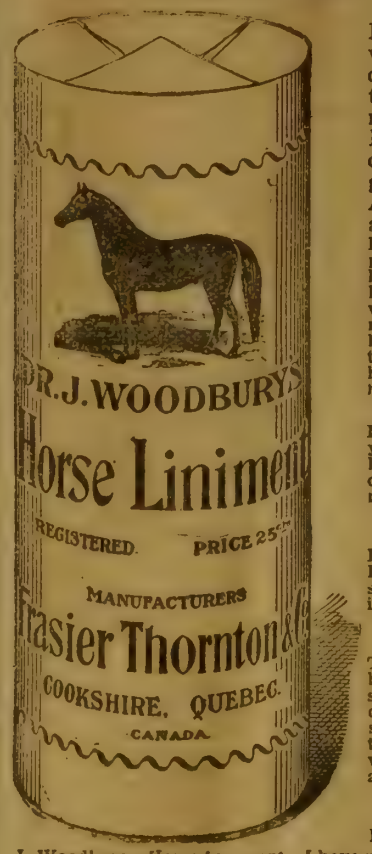
It may be, as some claim, that the ideal floor for horses is clay, but the trouble is, horses will paw holes in it, and there is certain to be some loss of liquid manure. Then, too, it is hard to keep clean. The cement is easily cleaned, and where sufficient bedding is used to absorb the liquid, there is a saving of plant food. I find more bedding will be required with concrete than an open plank floor. No farmer should object to this, however, as it is a saving and not a loss. Cement prevents underdraughts, and is therefore more comfortable for the horse.

In making our stable floor we filled in with stones and coarse gravel up to the last 6 or 8 inches, then we used a mixture of some 5 parts gravel, 2 of sand, and 1 of cement. The last 2 inches were made richer with less gravel. Use clean material and tamp well to keep from settling or cracking the top. Tamp well each layer as put in (this is important), and leave the top rough so horse will not slip on it. We make a slope of 3 or 4 inches from front of stall to back to drain so the liquid will mix with the solid manure, and be cleaned out together. R. M. T.

Butter is a condensed product. Nothing can be made or grown on the farm which brings as much per pound.

Dr. J. Woodbury's Horse Liniment

THE INFALLIBLE REMEDY



For the removal of Splints, Bog Spavins, enlargements of any and every description it has no equal. Given internally, it will promptly relieve and remove any and every character of Cough Enlargements of the Glands, Affections of the Kidneys. For distemper, strangles, and colic it is infallibly the remedy All horses that are stabled should have an application of Dr. J. Woodbury's Horse Liniment to the hoofs of the forefeet to prevent their becoming feverish, dry, brittle, hard, contracted or otherwise injured Insist on having Dr. J. Woodbury's Horse Liniment. We warrant it to effect that for which it is recommended when used according to directions. Its beneficial effects are so prompt and decided that it has excited the admiration of the leading horsemen of the Dominion and secured their highest confidence.

Bear River, N. S.
Dear Sirs:—We do not hesitate in recommending your Dr. Woodbury's Horse Liniment. We have used it in the woods for coughs, colds, distemper and cuts and would say that no lumberman should be without it.
Yours truly, Clarke Bros.

Hubbard's Cove, N. S.
Dear Sirs:—I have used Dr J. Woodbury's Horse Liniment in my stable for years and consider it the best liniment on the market for both internal and external use.
Yours truly, C. C. McLean.

Truro, N. S.
This is to certify that I have used Dr. J. Woodbury's Horse Liniment with the very best results for colds, coughs, distemper and all lung deseases. It is the best to give horses in the spring to keep them in condition. It purifies the blood, cleanses the lungs from impurities which may exist and gives the system healthy action.
Newton Lee, Owner "All Right" 5817.

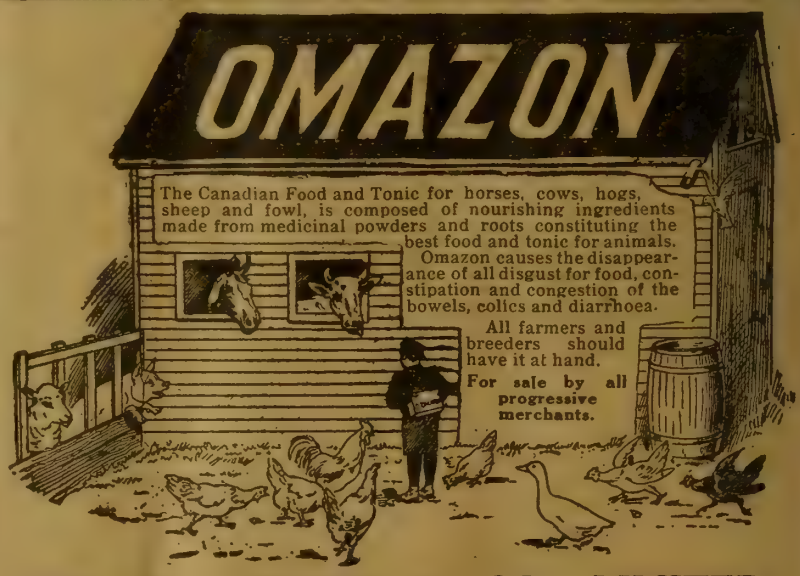
Elmsdale, N. S.
Dear Sirs:—Kindly send me 6 dozen bottles Dr. J. Woodbury s Horse Liniment. I have not a bottle in the store and it is the only kind my customers will take. Yours truly, Elmsdale Mercantile Co.

Elmsdale, N. S. Dear Sirs:—I cured my horse with Dr. J. Woodbury's Horse Liniment. It was a bad case of distemper. I always recommend this liniment to my friends as the best for all diseases of the horse. Yours truly, H. R. Whitehead.

Dear Sirs:—One of my horses had a bad cough and I made a complete cure with three bottles of Dr. J. Woodbury's Horse Liniment. The cough was of twelve months standing. In my large experience with horses I consider this liniment to be the best made for all diseases in the horse, I recommend it to my friends. E. J. Anderson, Truro, N. S.

FRASIER THORNTON, & CO., Limited, Manufacturers: Cookshire, Quebec, Canada

OMAZON



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Omazon causes the disappearance of all disgust for food, constipation and congestion of the bowels, colics and diarrhoea.
All farmers and breeders should have it at hand.
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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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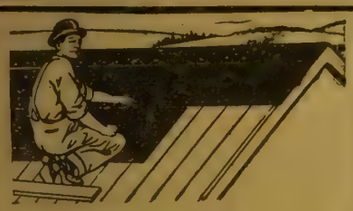

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Is the beginning of our busy season, but you can enter any time.

Send for new catalogue containing tuition rates and full information.

The St. John Business College — S. KERR, Principal

ABSORBINE
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Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, Muscles or Bruises. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. $2 a bottle delivered. Describe your case for special instructions and Book 2 K Free.

ABSORBINE, JR., the antiseptic liniment for mankind. Reduces Strained, Torn Ligaments, Enlarged Glands, Veins or Muscles, Heals Cuts, Sores, Ulcers. Allays pain. Price $1.00 a bottle at dealers or delivered. Book "Evidence" free.
W. F. YOUNG, P.D.F., 124 Lymans Bldg., Montreal, Can.
Absorbine and Absorbine, Jr., are made in Canada.

POULTRY.

VALUE OF WATER IN POULTRY RATION

Through various experiments with poultry at various times and places it has been found that water is a necessity and a requisite to a laying fowl. It has been demonstrated that should the water supply be removed from a pen of fowls, the egg production would be reduced at least fifty per cent. Hens consume an enormous amount of water if one will give the subject a little extra thought. The average farm flock of from 100 to 150 fowls will consume nearly five gallons of water daily. It is averaged that each fowl will consume 8 ounces of water during a day. This means one gallon daily to 16 hens.

Taking the hen's viewpoint, water is just as important as feed. It is as much of a requisite for egg material as food, for she cannot make an egg with either one alone. Hence, we can easily see that the man who is feeding a good amount of costly feed but who is neglecting the all-important water supply, is making a great mistake, and will have to be contented with a low egg yield.

Considering the present high prices of feed, together with the weather conditions, hens will consume about six gallons of water to each one dollar's worth of food. Therefore, if the feed is worth one dollar, the water is worth the same amount. We have seen that fowls need water, but we have not understood why. Let us find out now by enumerating the uses to which the hen puts the water:

First, the water is used to soften solid foods in preparing for digestion. We all know well enough that hard, solid foods have to be softened by some process before it can be digested.

Water must be given to supply the liquid element of the blood, which carries the nourishing atoms of food to all parts of the body, supplying worn-out organs with stimulating food, and carries away from these exhausted tissues all poisons and excretive wastes.

When we know that an egg is 75 per cent. water we see that it is impossible for a fowl to make an egg unless we supply plenty of water for her to drink, for she cannot make eggs unless the elements that compose the egg are sufficient.

Water equalizes to a greater extent than anything else the temperature of the hen's body. Cold water lowers the temperature, and warm water increases the heat, and for this reason we give our fowls the former in warm weather, and the latter in cold weather. A fowl's body is also cooled by evaporation, as is also the human body. In the human body evaporation is accomplished through perspiration. A fowl does not sweat, but the temperature of her body is reduced by evaporation through her breathing organs. This accounts for the hen holding her mouth open and breathing so rapidly on a hot summer day.

From the foregoing talk on water as a factor in egg production, we learn two great lessons that will mar success if either is neglected. Water is just as important as feed. Once a day is not often enough to water our pen of fowls. W. G. Pickens.

It is cleaimed that 100 pounds of fresh hen manure contains about 50 pounds water, 16 pounds organic matter, 56 pounds ash. Analysis shows that poultry manure contains 2.43% phosphoric acid, 2.26% potash, and 3.25% nitrogen, as ammonia and organic matter.

Help Wanted!

These moulting fowls need help. You can supply the necessary strength to expel the old quills and shorten the moult by giving them

Pratts Poultry Regulator

It regulates the blood, bowels and digestive organs. Tones up the entire system. Strengthens the egg-producing organs. Promotes early fall and winter laying.

Put up in popular-priced packages, also in money-saving 25-lb. pails and 100-lb. bags. Ask your dealer.

Money Back If Not Satisfied.

Our new book, "Poultry Wrinkles," tells how to shorten the moult. Write for it. It's FREE.

PRATT FOOD CO. OF CANADA, Limited.
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Three new Cook Books sent free on receipt of Red Ball Trade-mark.

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Pears

For clear, white delicately flavored preserved pears, use

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FOR HOME AND COUNTRY

This Department will be utilized to the best interests of the homes in the Maritime Provinces. Subjects relating to household science and all that stands for better homes and communities will be published on this page. The editors, Misses Saunders and Winter, of Fredericton, N. B., solicite your assistance in making this page a success and will be glad to publish tested recipes, household discoveries and other articles useful to the homemaker and women's organizations.

GROWN UP

"I looked at him a little while ago
And thought, how much he does begin to grow,
And yesterday he measured to the span
Full five feet six—the youngster is a man!
Grown up Lord help us, but it makes us wince
To look at him and think a short while since
He was a boy in breeches to the knee,
And now he's got a girl he goes to see!

They'll shave him next, and make a dude of him,
And tog him out regardless. Eyes grow dim
Along the vistas of the far-off days,
And there amid the vision sometimes plays
A little tike, all curly gold on hand,
With kilts of plaid, and little shirts with bands,
With bands with buttons on them where a mother's hands
Buttoned his breeks with patience. Now he sands
A half head taller than I am myself—
Ambitious to be off and earn some pelf!

This is life for you! To bear, to bring
Our hearts to love them as with brooding wing
Above their couches we bend down in prayer—
And then some day they are no longer there,
But walking with us in our dark and light,
Like men and women—staying out at night,
Gathering their own ideas, of age and free,
And only our dreams still left to you and me!"

THE VALUE OF FOODS TO THE HUMAN BODY

Just how much food the human body does need is a complicated problem to which in recent years scientists have been devoting much attention. Food is the source from which the body derives both its energy, or fuel, and the substance it uses to build and replace worn-out tissues. It also provides small amounts of recently discovered substances needed to regulate growth and other bodily functions. As a unit for measuring the energy supplied, scientists have adopted what is known as the calorie, and it is estimated that for a full-grown man engaged in moderate physical work, 3000 calories a day are needed. Of these, from 300 to 400 should be supplied in the form of protein, the chief substance utilized by the body in tissue building. There should also be some fruits and vegetables which supply the mineral matters needed for building tissues and help in various ways to keep the body machinery in good working order; also fat and starches and sugars which are valuable sources of energy. The energy supplied by the foods as a whole is consumed by the body in running itself and performing its daily work.

The number of calories and the amounts of nutrients contained in stated quantities of different kinds of food have been worked out by scientists and afford a basis for comparing the nutritive value of various dishes. The matter is so complicated that the ordinary housewife probably has neither the time nor the inclination to make a mathematical calculation of the nourishment her meals afford. It will, however, help her to know that by observing a few fundamental principles she can alter her bills of fare to suit changing conditions at home or in the market without any risk of underfeeding the family. First among these is the fact that an adequate diet should contain articles from each of the five groups into which the common food materials may be divided:

These are: 1—Vegetables and fruits which supply acids and other substances that the body needs to keep it in proper working order, as well as some building materials and energy. 2—Meats, fish, eggs, milk, legumes, etc., in which the proportion of protein to other substances is high in comparison with the other groups. 3—Starchy foods like potatoes, rice, flour and other grain products, etc., which furnish much energy and some protein and mineral matters. 4—Foods rich in sugar, an excellent source of body fuel, the pleasant flavor of which makes the diet more attractive; and 5—the fats, like butter, bacon, cream, lard, etc., which are valuable sources of energy.

No one of the groups can profitably be omitted altogether. It is, nevertheless, possible to avoid from a nutritive point of view a useless waste of money by selecting, first, the cheapest articles in each group; and second, by substituting to a certain extent articles from a cheaper group for those from a more expensive. In particular the grain foods in Group 3 may be used more extensively than is common in many households, and the use of the higher-priced ones in Group 2 may be correspondingly decreased. The grains furnish protein as well as energy, and in a cheaper form than meat. By combining them with a little meat, the meat flavor is secured and a dish as nutritive but much less expensive than meat alone obtained. This does not mean that all animal foods or even all meats should be cut out of the diet entirely. As far as can be judged, in the light of our present knowledge, the body is most likely to keep in health if it obtains its protein from a variety of sources, including milk (especially in the case of children), eggs, meat, etc. Similarly, dried fruits contain not only the characteristic rpoperties of foods in Group 1, but sugar as well, and a liberal use of them will provide in an economical form, much of the sugar which the palate craves.

The husewife, too, who understands these and similar facts in regard to the composition and uses of food will be able to free herself from many existing prejudices. Skim milk, for instance, is regarded as unfit for human use. As a matter of fact, it contains practically all of the constituents of while milk except the fat taken off in the cream. On farms it is frequently fed to livestock, but in many cases it might be more economical to use in the household. If it is considered too thin for drinking, it may be used in cooking, as in making soups, mixing bread, or cooking cereals.

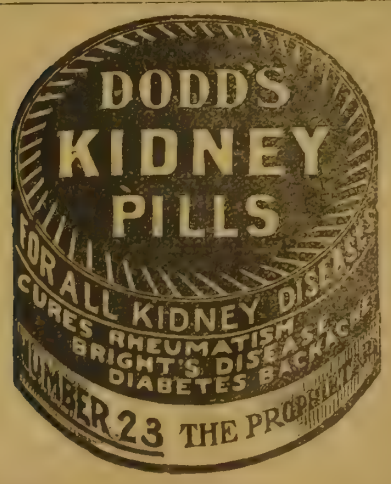
HOME-MADE COOK-STOVE DRIER

DIMENSIONS: Base 24 x 16 inches: height 36 inches. A base, 6 inches high, is made of galvanized sheet iron. This base slightly flares toward the bottom and has two small openings for ventilation in each of the four sides. On the base rests a box-like frame made of one or one and a half-inch strips of wood. The two sides are braced with one and a quarter-inch strips serving as cleats on which the trays in the drier rest.

These are placed at intervals of three inches. The frame is covered with tin or galvanized sheet iron, which is tacked to the wooden strips of the frame. Thin strips of wood may be used, instead. The door is fitted on small hinges and fastened with a thumb-latch. It opens wide so that the trays may be removed easily. The bottom in the drier is made of a piece of perforated galvanized sheet iron. Two inches above the bottom is placed a solid sheet of galvanized iron, three inches less in length and width than the bottom. This sheet rests on two wires fastened to the sides of the drier. This prevents the direct heat from coming in contact with the product, and serves as a radiator to spread the heat more evenly.

The first tray is placed three inches above the radiator. The trays rest on the cleats three inches apart. A drier of the given dimensions will hold eight trays. The frame of the tray is made of one-inch strips on which is tacked galvanized screen wire, which forms the bottom of the tray. The tray is 21x15 inches.

The lowest tray when placed in the drier is pushed to the back, leaving



a Present *for the* Soldier

YOU can depend on the mothers to think of the little things which will be appreciated by the boy in the camp or trenches. And one article which many a mother has given her boy at the last moment is Dr. Chase's Ointment.

There are so many ways that Dr. Chase's Ointment is useful to the soldier that it becomes invaluable to him. It is used for chafing and skin irritation resulting from heavy clothing and equipment. It brings comfort to sore, scalded feet after the long march. Applied to wounds it prevents blood-poisoning and heals the skin. And it should never be forgotten that Dr. Chase's Ointment is the most effective treatment obtainable for piles, a distressing ailment which results from contact with the cold earth, whether in camp or trench.

The Canadian soldiers have been well supplied with this standard ointment, and, judging by their many letters of appreciation, there seems to be few things more keenly appreciated. Just try it in the next parcels you send to the front.

Dr. Chase's Ointment

60c a box, all dealers, or Edmanson, Bates & Co., Ltd., Toronto. Refuse to accept substitutes, for they only disappoint.

the three-inch space in front. The next tray is placed even with the front, leaving a three-inch space in the back. The other trays alternate in the same way. A ventilator opening is left in the top of the drier, through which the moist air may pass away.

The principle of construction is that currents of heated air pass over the product as well as up through it, gathering the moisture and passing away. The movement of the current of air induces a more rapid and uniform drying. The upper trays may be shifted to the lower part of the drier and the lower trays to the upper part as drying proceeds, so as to dry the product uniformly throughout.

If drying is done in a cookstove oven, leave oven door ajar. Note temperature of oven often. Trays for use in the oven may be made by using a convenient-sized piece of galvanized wire screen and bending up the edge one or two inches.

WOMEN'S INSTITUTE MEETINGS

In the Clifton hall, on the 23rd August, the Women's Institute held an "Old-Fashioned Tea and Concert", which was well pratonized by people from far and near. The menu consisted of dishes popular in ye olden days" some of the delicious eatables served, including: Molly's scallop, home-made bread and rolls, Aunt Jemima's pancakes, Sally's corn muffins, cottage cheese, Angelina's tea cakes, Aunt Betsey's gingerbread, grandma's cookies, tea, coffee.

On exhibition were one dozen quilts at least one hundred years old, such pretty designs too, that one felt tempted to buy, but as one lady said, "No indeed they are not for sale; we prize them too highly to sell them. However, we will be glad to sell you a ticket on this quilt recently made by the Institute members, and this rug so beautifully woven by one of our members," money for tickets was immediately produced.

One thing very much in keeping with the celebration was the old-fashioned spinning wheel on the platform in the hall, kept busy by a lady over eighty years of age. This was a pretty sight, and when conversing with the "centre of attraction" she said she "thought the Institute might have charged a fee to see her demonstrate.

In the evening, when the tea dishes were cleared away, a concert consisting of readings, vocal and instrumental music, all selections of years gone by, was delightfully listened to by all, and immediately following the concert Miss Winter, the Supervisor o fWomen's Institutes, threw on the screen many beautiful pictures of scenery she had seen on her trip West and North, including pictures of mountains, glaciers, totem poles, rivers and lakes, etc.

At the home of Miss Celia Peck, president of the Hopewell Hill Institute, a district Convention was held in July, the visiting branches being Albert and Hillsboro. Mrs. G. M. Russell, the vice president, welcomed the visiting members and splendid addresses were given by the three presidents. After the meeting a delicious luncheon was served and when a generous sized cake made its appearance, some one whispered, "the frosting is in the Institute colors." The "guest" presidents were asked to cut the cake. Everybody had such a good time, the officers of the Hillsboro Institute "put their heads together" and said "we will invite the Albert and oHpewell Hill members to meet with us in September" and sure enough the invitation was extended to them. Now, another enjoyable meeting is being looked forward to.

In honor of one young lady in the Hpewell Hill Institute, who is soon to change her name, an "At Home" was held at the home of Miss Celia Peck, the persident, in August. The entire membership was present and responded to roll call with quotations appropriate to the occasion. A letter which gave pleasure to all the members was read from a Candaian mother expressing her gratitude to the Institute for remembering her son, who is a prisoner of war in Germany. Following the business session, a very entertaining programme was carried out, consisting of vocal and instrumental music quite in keeping with the occasion. Miss Archibald was then presented, by the president, with a Pryex casserole, on behalf of the Institute. The guests then repaired to the dining room where a sumptuous luncheon was served, the centrepiece being a bride's cake iced with a design of roses, horseshoes and true lovers knots, entwined with smilax and surrounded by a vase of white sweet peas. This cake was afterwards presented to the bride-to-be.

A Place to Sun the Milk-Cans.—It is often a question to a farmer's wife to know just where to sun and air the milk pans, pails and cans. The contrivance which I saw recently near a kitchen door solves the problem nicely. It was simply an old wagon-axle driven part way into the ground with a large wheel on the upper end. The tinware was spread about on the spokes.

A Cutlery Holder.—More convenient than the usual kitchen drawer is a cutlery holder made of demin. Make a pocket sixteen inches long and about ten inches wide. Stitch in varying lengths, making places for large and small spoons, knives and forks. Tack this over the kitchen table, and when you are cooking you can easily find the article you wish to use.

So Bad With Kidneys Would Faint Away.

DOAN'S KIDNEY PILLS CURED HER.

Mrs. Albert Williams, Edam, Sask., writes: "I have the greatest pleasure in telling you what Doan's Kidney Pills did for me.

Ten years ago I was so bad with my kidneys that I would faint away and could not stand to do anything. I had been that way for two years, and had done all I could, but did not get any better until one day some one put a little book in our door, and I saw how another young girl had suffered like I was then, so I thought I would try them, and I am glad to say that after taking four boxes I have never had the same thing again, thanks to Doan's."

Doan's Kidney Pills are the original pill for all kidney troubles. They are put up in an oblong grey box, and bear the trade mark of a "Maple Leaf". See that you get "Doan's" when you ask for them.

Price 50c. per box at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

THE ST. STEPHEN EXHIBITION

(Continued from page 598)

Mating Pens

Barred Rocks (cockerel)—1, W. H. Norwood.

Barred Rocks (pullet)—1, E. H. Barter; 2, H. M. McMonagle; 3, W. H. Norwood.

Barred Rocks (cockerel chicks)—1, H. M. McMonagle.

Barred Rocks (Pullets, chicks)—1, H. M. McMonagle.

TURKEYS

Bronze—1, Bert Love, Basswood Ridge; 2, Fred Ormrod, St. David.

GEESE

Toulouse—1 and 2, Aubrey Stevenson.

African—1, J. E. Conrod, St. Stephen; 2, D. Hyslop.

Common—1, J. A. Joudry, Waweig; 2, Martin Reid; 3, Fred Coffee.

Toulouse, 1917—1 and 2, Aubrey Stevenson.

DYSPEPTIC FOR SIX YEARS

Halifax N.S. Sergeant tried everything on the market, but Only Cure was Dr. Cassell's Tablets.

Sergt. Duncan MacNeil (home address 116, Pleasant-street, Halifax, N.S.), writing from Europe says:—"For six years I suffered from frequent attacks of Dyspepsia, and though I tried all the remedies on the market I obtained little or no relief. I had not been long with the C.E.F. when my old trouble returned. Then a friend told me about Dr. Cassell's Tablets. The first box brought such pronounced relief that I continued, and to make a long story short, complete cure was effected."

A free sample of Dr. Cassell's Tablets will be sent to you on receipt of 5 cents for mailing and packing. Address: Harold F. Ritchie and Co., Ltd., 10, M'Caul-street, Toronto.

Dr. Cassell's Tablets are the supreme remedy for Dyspepsia, Kidney Troubles, Sleeplessness, Anaemia, Nervous ailments, and Nerve paralysis, and for weakness in children. Specially valuable for nursing mothers and during the critical periods of life. Price 50 cents per tube, six tubes for the price of five, from Druggists and Storekeepers throughout Canada. Don't waste your money on imitations; get the genuine Dr. Cassell's Tablets.

Proprietors, Dr. Cassell's Co., Ltd., Manchester, Eng.

African, 1917—1, Hazen Hyslop; 2, D. Hyslop; 3, J. E. Conrad.

Common, 1917—1, J. A. Joudry; 2, Martin Reid; 3, Edgar Thompson.

DUCKS

Indian Runners—1, Frank Morrison, St. Stephen.

Muscovey—1, J. E. Conrad.

Indian Runner, 1917—1, Frank Morrison.

Muscovey, 1917—1, J. E. Conrad.

Common, 1917—1, Frank Morrison.

Breeding Pen Ducks

1, Frank Morrison; 2, J. E. Conrad.

Guinea Fowl

1, Fred Omrod; 2, F. B. Mitchell.

DAIRY PRODUCE

Best tub or crock—2, H. Freeman Lever, Rollingdam; 3, Mrs. F. M. Young, Oak Bay; 4, Miss Alice Nixon, Waweig; 5, Mrs. J. A. Goudy, Waweig; 6, W. B. Simpson, Waweig; 7, Howard Emery, Waweig.

Best Printed or Fancy Package, 10 lbs. made in private dairy—2, H. Freeman Lever; 3, Miss Alice Nixon; 4, Mrs. F. M. Young; 5, Walter Howland, Tower Hill; 6, Mrs. Samuel Bamford, Little Ridge; 7, W. B. Simpson.

Butter in granulated in glass jars—1, Mrs. Samuel Bamford; 2, H. Freeman Lever; Mrs. H. F. Milligan, St. Stephen and Miss Mina Reynolds, St. Stephen, divide 3rd money, butter practically the same.

HONEY AND BEE SUPPLIES

Comb Honey in sections—1, Wilfred Todd, Milltown; 2, Holmes Maxwell, St. Stephen; 3, Martin Reid, Leverville.

Extracted liquid light Honey—1, Wilfred Todd; 2, Allie Wilson, St. Stephen.

Extracted Honey, dark—1, Walter Howland, Tower Hill; 2, Allie Wilson; 3, Wilfred Todd.

Granulated Honey—1, Allie Wilson; 2, Wilfred Todd.

Display of Honey for Market—1, Wilfred Todd; 2, Allie Wilson.

Comb Honey, Super—1, Ray Lever, Leverville; 2, Walter Howland; 3, Martin Reid.

Display of articles of diet into which honey may enter—1, Allie Wilson; 2, Mrs. John Logan, Town Hill; 3, Thelma Todd, Milltown.

Beeswax—1, Walter Howland; 2, Allie Wilson; 3, Martin Reid.

Apiarian Supplies—1, Allie Wilson; 2, Wilfred Todd.

Honey bearing plants—1, Allie Wilson; 2, Mrs. Holmes Maxwell, St. Stephen; 3, Thelma Todd.

Colony of Italian Bees—1, Allie Wilson; 2, Wilfred Todd.

Colony of Black Bees—1, Allie Wilson; 2, Wilfred Todd; 3, Thelma Todd.

Leonard F. Floyd, Judge.

HORTICULTURE

Apples

Best plate of 5, Alexanders—1, Albert Bagley, St. Stephen; 2, T. Denyer, St. Stephen; 3, W. C. Arnold, St. Stephen.

Bishop Pippin—1, D. L. Martin, Fair Haven; 2, Mrs. Wm. Scott, St. Stephen; 3, Edwar Thompson, Dufferin.

Baldwin—1, Fred Hannah, Ledge; 2, Howard Emery, Waweig; 3, W. C. Arnold, St. Stephen.

Ben Davis—1, Mrs. J. T. Weatherby, Little Ridge; 2, J. Hy. Halstead, St. Stephen; 3, Howard Emery, Waweig.

Bethel—1, D. L. Martin.

Duchess of Oldenburg—1, J. W. Robinson, St. Stephen; 2, Frank Scott, St. Stephen; 3, Mrs. Wm. Scott.

Fall Jennings—1, W. C. Arnold; 2, Earle Avery, Ledge.

Famuese—1, W. C. Arnold; 2, Edgar Thompson; 3, Mr. Fred Hannah, Ledge.

Fallawater—1, Earle Avery; 2, Jas. A. Maxwell, St. Stephen; 3, Mrs. Arthur H. White, Moores Mills.

Gideon—1, Mrs. Arthur H. White; 2, W. B. Simpson.

Golden Russet—1, W. C. Arnold; 2, Fred Hannah; 3, Edgar Thompson.

Grimes Golden—1, Mrs. Arthur H. White; 2, W. C. Arnold; 3, W. E. Armstrong, Waweig.

Gravenstein—1, D. L. Martin & Son; 2, C. N. Vroom, St. Stephen; 3, Fred Honnah.

Hass—1, Howard Emery; 2, D. L. Martin & Son; 3, Frank Scott.

King of Tompkins—1, D. L. Martin & Son; 2, C. N. Vroom; 3, Earle Avery.

Milwaukee—1, W. E. Armstrong.

McIntosh—1, Earle Avery; 2, W. E. Armstrong; 3, D. L. Martin & Son.

McMahons White—1, Frank Scott.

New Brunswick—1, W. E. Armstrong; 2, W. C. Arnold; 3, C. N. Vroom.

Nonpareil—1, W. C. Arnold.

Northwest Greening—1, Howard D. Dinsmore; 2, S. I. Irving, Moores Mills.

Northern Spy—1, Edgar Thompson; 2, Howard Emery; 3, Earle Avery.

Pewaukee—1, J. Hy. Halstead; 2, Earle Avery; 3, Frank Scott.

Red Astrachan—1, Mr. Fred Hannah; 2, J. Hy. Halstead; 3, Arthur H. White.

Rhode Island Greening—1, J. Hy. Halstead; 2, W. B. Simpson; 3, W. E. Armstrong.

Roxbury. Russet—1,. Purvis .Norwood, Milltown.

Stark—1, W. E. Arnold; 2, D. L. Martin & Son; 3, Mrs. Arthur H. White.

Strawberry Pearmain—1, Samuel Bamford, Little Ridge; 2, Frank Scott; 3, W. C. rAnold.

Snow Apple—1, Mrs. Arthur H. White; 2, W. C. Arnold; 3, Edgar Thompson.

Talman Sweet—1, Jas. A. Maxwell, St. Stephen.

Tetofsky—1, D. L. Martin & Son.

Wealthy—1, Frank Scott; 2, Earle Avery; 3, Samuel Bamford.

Williams Red—1, D. L. Martin & Son; 2, C. N. Vroom; 3, Earle Avery.

Wolfe River—1, W. E. Armstrong; 2, Samuel Bamford; 3, Earle Avery.

Yellow Transparent—1, D. A. Nesbitt, St. Stephen; 2, Mrs. Fred Laughlin; 3, Mrs. J. T. Weatherby.

King Pippin—1, Frank Scott; 2, W. E. Armstrong, (Dudley).

Crimson Beauty—3, Manfred Robinson.

Seedlings—1, Howard Emery; 2, Albert Bagley; 3, C. N. Vroom.

Collection 10 varieties—1, W. E. Armstrong; 2, W. C. Arnold; 3, Edgar Thompson.

Apples in Packages

Box Alexander—1, Frank Scott; 2, W. B. Simpson.

Box Duchess—1, Frank Scott.

BABY'S OWN SOAP

For Nursery Use

you cannot take chances on Soap. Four generations of Canadians have enjoyed the creamy, fragrant skin healing lather of Baby's Own Soap—the Standard in Canada for nursery use, on account of its known purity.

Baby's Own is Best for Baby—Best for You.

3-12

ALBERT SOAPS, LIMITED, Mfrs., - MONTREAL.

The low cost per cup

It is hard to believe that a cup of good, rich tea only costs about a fifth of a cent, but, you see, Red Rose consists chiefly of Assam teas—the richest, strongest teas in the world.

Red Rose easily yields 250 cups to the pound. And it's a tea of rare economy and flavor.

Kept Good by the Sealed Package

635

Box Famuese—1, W. B. Simpson.
Box Wealthy—1, Frank Scott.
Box Red Astrachan—1, Frank Scott.
A. O. U.—2, W. B. Scott.
Barrel of Duchess—1, Frank Scott.

Crab Apples

Transcendent—1, Edwin McGibbon, St. Stephen; 2, W. B. Simpson.
Hyslop—1, Purves Norwood; 2, J. Hy. Halstead; 3, W. B. Simpson.
Whitney Crab—1, Mrs. Susan Lindsay.
A. O. V. Crabs—1, Samuel Bamford; 2, W. C. Arnold; 3, Millard Scott.
Sweepstakes—1, Frank Scott.
Will Fox and W. B. Gilman, Judges.

AGRICULTURE

Field Grains

Buckwheat—1, H. Freeman Lever; 2, Harris Maxwell, Moores Mills; 3, A. T. Reid.
Soldier Beans—1, Purves Norwood; 2, Mrs. A. D. Taylor, St. Stephen; 3, Frank Clark, Sr.
Yellow Eye Beans—1, Richard Thomas.
Collection of Grain—1, W. B. Simpson; 2, Gillmor Bros.
Flax Seed—1, W. B. Simpson.
Hops—1, Frank Clark, Sr.; 2, L. B. Mitchell; 3, Mrs. A. D. Taylor.
Best Collection Potatoes—1, Wellington Thompson; 2, G. H. Voutt; 3, Frank Clarke, Sr.
Best Collection Field Roots—1, Frank Scott; 2, Holmes Maxwell; 3, W. F. McGibbon.
Best Collection Garden Vegetables—1, Frank Scott, Jr., Moores Mills; 2, Millard Scott, St. Stephen.
Best Collection Garden Herbs—1, G. H. Voutt, Old Ridge; 2, Chas. Voutt; 3, W. F. McGibbon.
Special School Garden Collection—1, St. Stephen School; 2, Moores Mills School.
Best Collection Ladies Fancy Work—1, Mrs. Geo. Carroll, St. Stephen; 2, Mrs. Charlotte Clindenning, Milltown; 3, Mrs. C. E. Wakefield, St. Stephen.
Best Collection of Ladies Useful Work—1, Mrs. Davis Libby, St. Stephen; 2, Mrs. S. E. Hill, Rollingdam.

THE NOVA SCOTIA PROVINCIAL EXHIBITION

(Continued from page 595)

Herd, 4 females—1, Alfred Servant.

All Other Dairy Grades

Cow, 4 years old—1 and 2, Prescott Blanchard; 3, 4 and 5, Chas. Etter, Aulac.
Heifer, 2 years old—1, Muriel Newcombe, Halifax; 2, Prescott Blanchard.
Heifer, 1 year old—1, Prescott Blanchard; 2, Chas. Eetter; 3, Roy P. Pipes.
Heifer Calf—1, Prescott Blanchard; 2, Roy B. Pipes.
Herd, 4 females—1, Prescott Blanchard; 2, Chas. Etter.

BEEF CATTLE

Shorthorns

Bull, 3 years old—1, J. M. Laird & Son, Kelvin Grove, P. E. I.; 2, R. A. Snowball.
Bull, senior yearling—1, J. M. Laird & Son.
Bull, junior yearling—1, R. A. Snowball; 2, J. M. Laird & Son.
Bull, senior calf—1, A. N. Griffin, New Minas.
Bull, junior calf—1, J. M. Laird & Son; 2, R. A. Snowball.
Cow, 4 years old—1 and 4, R. A. Snowball; 2 and 3, J. M. Laird & Son.
Cow, 3 years old—1, A. N. Griffin; 2 and 4, R. A. Snowball, 3, J. M. Laird & Son.
Heifer, 2 years old—1, A. N. Griffin; 2, R. A. Snowball; 3, J. M. Laird & Son.
Heifer, senior yearling—1, A. N. Griffin; 2 and 4, R. A. Snowball; 3, J. M. Laird & Son.
Heifer, junior yearling—1 and 3, A. N. Griffin; 2, J. M. Laird & Son.
Heifer, senior calf—1, J. M. Laird & Son; 2 and 3, A. N. Griffin; 4, R. A. Snowball.
Heifer, junior calf—1 and 2, J. M. Laird & Son; 3, R. A. Snowball.
Champion Bull—J. M. Laird & Son.
Champion Female—J. M. Laird & Son.
Best 3 animals, get of one bull—1, J. M. Laird & Son.
Best 2 animals, progeny of one cow—1, A. N. Griffin.
Herd—1, J. M. Laird & Son; 2, R. A. Snowball.
Breeders' Young Herd—1, J. M. Laird & Son; 2, A. N. Griffin; 3, R. A. Snowball.
Four animals, get of one sire—1, J. M. Laird & Son; 2, A. N. Griffin; 3, R. A. Snowball.
Two animals, progeny of one cow—1, A. N. Griffin; 2, J. M. Laird & Son.

Herefords

All prizes in the Hereford class went to Wm. O'Brien & Sons, Windsor Forks, N. S., without competition.

Devons

All prizes in the Devon class went to W. A. Pinkney, Melbourne, N. S., without competition.

Aberdeen Angus

Bull, 3 years old—1, A. G. Spafford, Compton, Que.; 2, Horne Bros.
Bull, 2 years old—1, A. G. Spacord.
Bull, senior yearling—1, Geo. A. Black, Westmorland Pt., N. B.; ., Horne Bros.
Bull, junior yearling—1, Horne Bros.; 2, A. G. Spafford.
Bull, senior calf—1, Geo. A. Black; 2, A. G. Spafford.
Bull, junior calf—1, A. G. Spafford; 2, Horne Bros.
Cow, 4 years old—1, A. G. Spafford; 2, 3 and 4, Horne Bros; 5, Geo. A. Black.
Cow, 3 years old—1 and 4, A. G. Spafford; 2 and 3, Horne Bros.; 5, Geo. A. Black.
Heifer, 2 years old—1 and 4, A. G. Spafford; 2, Horne Bros.; 3, Geo. A. Black.
Heifer, senior yearling—1, Horne Bros.; 2, A. G. Spafford.

The Help Problem Solved

There is more work to do on the farm than ever before. A farmer is expected to keep more stock and grow bigger crops, because the Empire needs more food. Help can scarcely be secured at all. The solution of the problem, as far as stable work is concerned, is to install a BT Manure Carrier.

BT

Manure Carrier

Cuts Stable Work in Two

It takes out four wheelbarrow loads at a time, and dumps on the pile or into sleigh or spreader in a jiffy. It runs on a level overhead track right over muddy yards or snow drifts. One or two trips from gutter to pile and the job is done. It only takes you 5 or 10 minutes at the outside and there is no hard work about it.

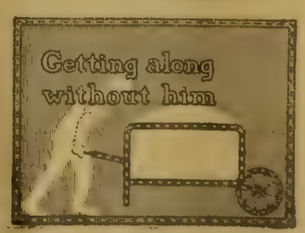
The illustration shows how quickly you can lower the bucket of the BT Manure Carrier to the gutter. Just lift the brake and down it drops. This brake holds the load while you run it out to the pile.

SEND FOR BOOKLET

Send coupon for free booklet describing the BT Carrier in detail.

This is the time to get your outfit ready. Soon the cows will be in the barn and the winter and the heavy stable work will be upon you. Don't let it get Send for the booklet today.

BEATTY BROS., LIMITED
Dept. U320
ST. JOHN, N.B.



COUPON

BEATTY BROS., LIMITED.,
Dept. U320 St. John, N.B.

Send me your free booklet telling more about the BT Manure Carrier.

Your Name.....

P. O.....

Province.....

YOU CAN CURE

CONSTIPATION

BY THE USE OF

Milburn's Laxa-Liver Pills.

A free motion of the bowels daily should be the rule of everyone, for if they do not move regularly constipation is sure to follow, and bring in its train many other troubles when the bowels become clogged up.

Miss Emma E. Melanson, Halifax, N.S., writes: "I am now 20 years of age, and since I was 16 I have been greatly troubled with constipation, so much so that at times I would be in bed 3 or 4 days a month. I tried all the old fashioned remedies, castor oil, cascara, etc., with only temporary relief until my sister-in-law gave me some of Milburn's Laxa-Liver Pills. From the first they seemed beneficial, and I gave them a fair trial. This was two years ago, and with an occasional dose I have kept entirely free from constipation for the period mentioned."

Milburn's Laxa-Liver Pills are 25c. a vial at all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

Heifer, junior yearling—1, A. G. Spafford; 2, Horne Bros.

Heifer, senior calf—1, Horne Bros.; 2, A. G. Spafford.

Heifer, junior calf—1, Horne Bros.; 2, A. G. Spafford.

Champion Bull—Geo. A. Black.

Champion Female—A. G. Spafford.

Best 3 Animals, get of one Bull—1, A. G. Spafford.

Best 2 Animals, progeny of one cow—1, A. G. Spafford; 2, Horne Bros.

Aged Herd—1 and 3, A. G. Spafford; 2, Horne Bros.

Young Herd—1, Horne Bros.; 2, A. G. Spafford.

Grade Beef Cattle

Cow, 4 years old—1, Geo. A. Black; 2, A. G. Spafford; 3, Wm. O'Brien & Sons; 4, J. M. Laird & Son.

Cow, 3 years old—1 and 2, Wm. O'Brien & Sons; 3, E. S. Congdon, Berwick, N. S.

Heifer, 2 years old—1, Wm. O'Brien & Sons; 2, Hazen Etter, Westmorland Pt.; 3, E. S. Congdon.

Heifer, 1 year old—1 and 3, Wm. O'Brien & Sons; 2, E. S. Congdon.

Calf, under 1 year—1, J. M. Laird & Son; 2, Wm. O'Brien & Sons.

Steer, 3 years old—1, E. S. Congdon.

Steer, 2 years old—1 and 2, Hazen Etter; 3, Wm. O'Brien & Sons; 4, E. S. Congdon.

Steer, 1 year old—1, Wm. O'Brien & Sons; 2, E. S. Congdon; 3, Geo. A. Black; 4, Hazen Etter.

Steer calf under 1 year—1, Wm. O'Brien & Sons.

Herd, 4 Animals over 1 year—1, Hazen Etter; 2, Wm. O'Brien & Sons; 3, E. S. Congdon.

Fat Cattle

Ox or Steer, 3 years old—1 and 3, E. C. Griffin, Port Williams; 2, E. S. Congdon.

Ox or Steer, 2 years old—1 and 2, Thos. Tanner, Greenwich, N. S.; 3, E. S. Congdon.

Ox or Steer, 1 year old—1 and 2, Thos. Tanner; 3, E. S. Congdon.

Ox or Steer Calf—1, Wm. O'Brien & Sons.

Cow or Heifer, 3 years old—1 and 3, Thos. Tanner; 2, Wm. O'Brien & Sons.

Heifer, 2 years old—1 and 3, J. M. Laird & Son; 2, Thos. Tanner.

Heifer, 1 year old—1 and 2, Thos. Tanner; 3, Wm. O'Brien & Sons.

Heifer Calf—1, Wm. O'Brien & Sons.

Pair Fat Oxen or Steers, 3 years old—1 and 2, Thos. Tanner; 3, E. S. Congdon.

Pair Fat Oxen or Steers, under 3 years—1, E. S. Congdon.

Working Oxen and Steers

Pair, 4 years and over—1, E. S. Congdon; 2, Thos. Aylward, Falmouth; 3, Thos. Tanner.

Pair, 3 years old and under 4 years—1, E. S. Congdon; 2, Thos. Tanner.

Pair 2 years old, and under 3 years—1, Thos. Tanner; 2 and 3, E. S. Congdon.

SHEEP

Leicesters

Ram, 2 shears and over—1, S. L. Boswall, Pownal, P. E. I.; 2, A. C. Boswall; 3, John Retson.

Ram, shearling—1, S. L. Boswall; 2, A. C. Boswall; 3, Cephas Nunn, Winsloe.

Ram Lamb—1 and 2, John Retson; 3, S. L. Boswall; 4, A. C. Boswall.

Ewe, 2 shears and over—1 and 2, S. L. Boswall; 3, A. C. Boswall; 4, John Retson.

Ewe, shearling—1, S. L. Boswall; 2, John Retson.

Ewe Lamb—1 and 3, John Retson; 2 and 4, S. L. Boswall.

Pen, 1 Ram, 2 Ewes, 2 Ewe Lambs—1, S. L. Boswall; 2, John Retson; 3, A. C. Boswall.

Pen, 1 Ram Lamb and 3 Ewe Lambs—1, John Retson; 2, S. L. Boswall.

Lincolns

Ram, 2 shears and over—1 and 2, Albert Boswall, French Fort, P. E. I.; 3, C. D. Pugsley, River Herbert, N. S.

Ram, shearling—1 and 3, Albert Boswall; 2, C. D. Pugsley.

Ram Lamb—1 and 2, Albert Boswall; 3, C. D. Pugsley.

Ewe, 2 shears and over—1 and 3, Albert Boswall; 2 and 4, C. D. Pugsley.

Ewe, shearling—1, C. D. Pugsley; 2 and 3, Albert Boswall.

Ewe, Lamb—1 and 2, C. D. Pugsley; 3 and 4, Albert Boswall.

Pen, 1 Ram, 2 Ewes, 2 Ewe Lambs—1 and 3, Albert Boswall; 2, C. D. Pugsley.

Pen Lambs—1, Albert Boswall; 2, C. D. Pugsley.

Shropshires

Ram, 2 shears and over—1 and 2, Geo. L. Boswall, French Fort, P. E. I.; 3, McFarlane Bros.

Ram, shearling—1, Sharp & McNeil, Windsor, N. S.; 2 and 3, Geo. L. Boswall.

Ram, lamb—1 and 2, Geo. L. Boswall; 3, Sharp & McNeil.

Ewe, 2 shears and over—1 and 2, Geo. L. Boswall; 3, Sharp & McNeil; 4, Geo. L. Boswall.

Ewe, shearling—1 and 2, Geo. L. Boswall; 3 and 4, Sharp & McNeil.

Ewe, lamb—1, 2, 3 and 4, Geo. L. Boswall.

Pen, I Ram, 2 Ewes, 2 Ewe Lambs—1 and 2, Geo. L. Boswall; 3, Sharp & McNeil.

Pen Lambs—1 and 2, Geo. L. Boswall; 3, Sharp & McNeil.

South Downs

Ram, 2 shears and over—1, J. E. Baker & Sons, River Herbert, N. S.; 2, Oliver C. Saunders.

Ram, shearling—1, J. E. Baker & Sons; 2 and 3, Oliver C. Saunders, Winsloe, P. E. I.

Ram, lamb—J. E. Baker & Sons; 2 and 3, Oliver C. Saunders.

Ewe, 2 shears and over—1, 3 and 4, J. E. Baker & Sons; 2, Oliver C. Saunders.

Ewe, shearling—1 and 4, Oliver C. Saunders; 2 and 3, J. E. Baker & Sons.

Ewe, lamb—1 and 2, J. E. Baker & Sons; 3 and 4, Oliver C. Saunders.

Pen, 1 Ram, 2 Ewes, 2 Ewe Lambs—1, J. E. Baker & Sons; 2, Oliver C. Saunders.

Pen Lambs—1, J. E. Baker & Son; 2, Oliver C. Saunders.

Oxford Downs

Ram, 2 shears and over—1, J. M. Laird & Son, Kelvin Grove, P. E. I.; 2, J. E. Baker & Sons.

Ram, shearling—1, J. E. Baker & Sons.

Ram, lamb—1 and 3, J. E. Baker & Sons; . and 4, J. M. Laird & Son.

Ewe, 2 shears and over—1, J. M. Laird & Son; 2 and 3, J. E. Baker & Sons.

What is Crushed Coffee?

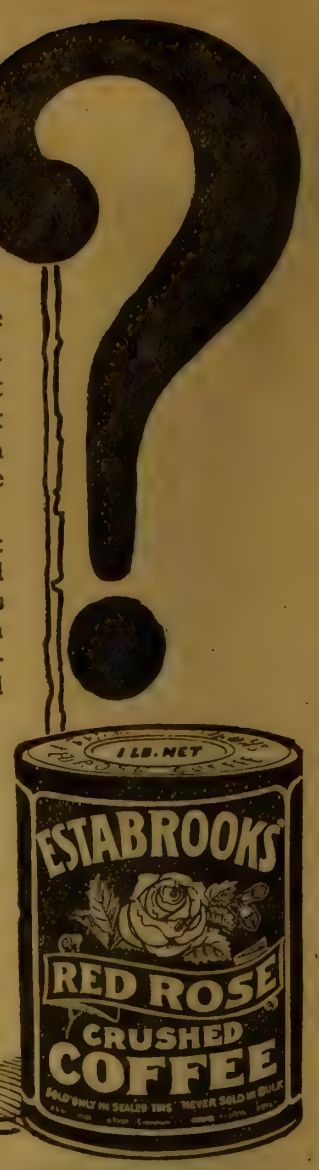
Briefly, Crushed Coffee is coffee that has had the beans crushed between steel rollers with just enough pressure exerted to break the beans into clean, even grains from which the bitter chaff and dust are easily separated by air suction—

Resulting in a coffee so pure that no egg is needed to settle it. Red Rose Coffee is as easy to make as Red Rose Tea, and its flavor, aroma and smoothness are a delight as compared with the ordinary ground coffees.

Sold only in double-sealed air-tight cans to keep it good.

The same price as it was three years ago. 671

Red Rose Coffee



Ewe, shearling—1 and 2, J. E. Baker & Sons; 3, J. M. Laird & Son.

Ewe, lamb—1, 2 and 3, J. E. Baker & Sons; 4, J. M. Laird & Son.

Pen, 1 Rram, 2 Ewes, 2 Ewe Lambs 1 and 2, J. E. Baker & Sons; 3, J. M. Laird & Son.

Pen Lambs—1, J. E. Baker & Sons; 2, J. M. Laird & Son.

Oxford Down Specials

Best Yearling Ram—1, J. E. Baker & Sons.

Best Yearling Ewes—1 and 2, J. E. Baker & Sons.

Best Pen of 4 Lambs—1, J. E. Baker & Sons.

Hampshire Downs

All prizes in this class went to Cephas Nunn, Winsloe, P. E. I., without competition.

Cheviots

All prizes in this class went to Cephas Nunn, Winsloe P. E. I., without competition.

Dorsets

Ram, 2 shears and over—1, Alfred Servant, Yarmouth; 2, Geo. L. Boswall.

Ram, shearling—1, Geo. L. Boswall.

Ram, lamb—1, Alfred Servant; 2, Geo. L. Boswall.

Ewe, 2 shears and over—1 and 4, Geo. L. Boswall; 2 and 3, Alfred Servant.

Ewe, shearling—1, 2 and 3, Geo. L. Boswall; 4, Alfred Servant.

Ewe, lamb—1 and 2, Geo. L. Boswall; 3 and 4, Alfred Servant.

Pen, 1 Ram, 2 Ewes, 2 Ewe Lambs—1, Geo. L. Boswall; 2, Alfred Servant.

Pen lambs—1, Alfred Servant; 2, Geo. L. Boswall.

Suffolks

Ram, 2 shears and over—1, J. Reagh Horne, Winsloe Sta., P. E. I.; 2, A. Parker Horne, Winsloe Sta., P. E. I.

Ram, shearling—1, A. P. Horne.

Ram, lamb—1 and 2, J. R. Horne; 3, A. P. Horne.

Ewe, 2 shears and over—1 and 2, A. P. Horne; 3, J. R. Horne.

Ram, shearling—1 and 2, A. P. Horne; 3, J. R. Horne.

Ram, lamb—1, A. P. Horne; 2 and 3, J. R. Horne.

Pen, 1 Ram, 2 Ewes, 2 Ewe Lambs—1, J. R. Horne; 2, A. P. Horne.

Pen lamb—1, J. R. Horne.

Grades or Crosses (Long Wool)

Ewe, 2 shears and over—1 and 2, Albert Boswall.

Ewe, shearling—1, C. D. Pugsley; 2, Albert Boswall; 3, C. D. Pugsley.

Ewe, lamb—1 and 2, Albert Boswall.

Pen, 2 shearling Ewes, 2 Ewe Lambs—1, Albert Boswall.

Grades or Crosses (Medium Wool)

Ewe, 2 shears and over—1, J. E. Baker & Sons; 2, Cephas Nunn; 3, Oliver C. Saunders.

Ewe, shearling—1, Cephas Nunn; 2, Oliver C. Saunders; 3, J. E. Baker & Sons.

Ewe, lamb—1, Cephas Nunn; 2, J. M. Laird & Sons; 3, Oliver C. Saunders.

Pen—1, Cephas Nunn; 2, Oliver C. Saunders; 3, J. E. Baker & Sons.

Fat Sheep (Long Wool)

Wether, shearling—1, C. D. Pugsley; 2, S. L. Boswall.

Wether, lamb—1, C. D. Pugsley.

Fat Sheep (Medium Wool)

Wether, shearling—1 and 3, Oliver C. Saunders; 2, J. E. Baker & Sons.

Wether, lamb—1, Oliver C. Saunders.

Ewe, lamb—1, Cephas Nunn; 2, J. E. Baker & Sons; 3, Oliver C. Saunders.

Fleece Wool

Domestic Medium—1 and 2, McFarlane Bros.; 3, Allen Bezanson, Hampton, N. S.

Domestic Low Medium—1, Walter G. Oulton, Windsor, N. S.; 2, Alfred Servant.

Domestic Lustre—1 and 2, Wm. O'Brien & Sons; 3, Walter G. Oulton.

F. M. Jennings, Judge.

SWINE

Berkshires

Boar, over 2 years—1, J. R. Semple & Son, Truro, N. S.; 2, Alfred Servant, Yarmouth, N. S.

Boar, 1 year under 2 years—McFarlane Bros., Fox Harbour Pt.; 2, Frank J. Locke, Amherst, N. S.

Boar, 6 months, under 1 year—1, J. R. Semple & Son; 2, Alfred Servant.

Boar, 3 months, under 6 months—1, 2 and 3, J. R. Semple & Son.

Sow, over 2 years—1, J. R. Semple; 2, Alfred Servant; 3 and 4, McFarlane Bros.

Sow, over 1 year, under 2—1 and 2, J. R. Semple & Son; 3, Alfred Servant; 4, Chas. Hosterman, Halifax.

Sow, over 6 months, under 1 year—1, J. R. Semple; 2, Alfred Servant; 3, Chas. Etter, Aulac, N. B.

Sow, over 3 months, under 6 months—1, Alfred Servant; 2, 3 and 4, J. R. Semple & Son.

Herd Boar and 3 females—1 and 2, J. R. Semple & Son; 3, Alfred Servant; 4, McFarland Bros.

Yorkshires

Boar, over 2 years—1, Roy B. Pipes.

Boar, over 1 year, under 2 years—1, E. C. Griffin, Port Williams, N. S.

Boar, 6 months, under 1 year—1, McFarland Bros.

Boar, over 3 months, under 6 months—1, Roper Bros., Charlottetown, P. E. I.; 2, E. C. Griffin.

Sow, over 1 year, under 2—1, Chas. Etter.

Sow, over 6 months, under 1 year—1, Roper Bros.

Sow, over 3 months, under 6 months—1 and 2, Roper Bros.

Herd Boar and 3 females—1, Roper Bros.

White Chesters

Boar, over 2 years—1, Jas. Nicholson, Halifax; 2, H. W. Corning, Chegoggin, N. S.

Sow, over 2 years—1, Jas. Nicholson; 2, H. W. Corning.

Sow, over 3 months, under 6 months—1, 2 and 3, Jas. Nicholson; 4, H. W. Corning.

Breeding Sow with litter—1, H. W. Corning.

Boar and 3 females—1, Jas. Nicholson; 2, H. W. Corning.

Duroc Jersey

All prizes taken in this class by J. E. Baker & Sons, River Herbert, N. S.

Grades

Sow, over 1 year—1, Alfred Servant.

All other prizes taken in this class by Roy B. Pipes.

Bacon Hogs

Best Pen, 2 pure bred Hogs for Export Bacon—1, Alfred Servant; 2, J. R. Semple & Son.

Best Pen, 2 Hogs, any cross or grade for Export Bacon—1, Roy B. Pipes.

FOWL

Andalusians, Blue Cock—Chas. A. Dill, Windsor, N. S., takes 1st also 1 and 2 in Andalusian Blue Hen.

Anconas Mottled Cock—1, Hillside Poultry Yards, St. John, N. B.; also 1 in Hen; 2, Cock, Thos. Aylward.

Brahmas, Light Cock—1, Home Industries, Halifax; 2, Chas. H. Smyth, Moncton, N. B.

Brahmas, Light Hen—1, Home Industries; 2, Chas. H. Smyth.

Buckeye Cock—1, Scott Warren, St. John, N. B.

Buckeye, Hen—1 and 2, Scott Warren.

Cochins, Buff Cock—1, Mrs. Lillian Newcombe, Halifax; 2, Frank Pickram, Halifax.

Cochin, Buff Hen—1, Mrs. Lillian Newcombe; 2, R. D. Moore, Halifax; 3, Frank Pickram.

Cochins, Partridge Hen—1, Eddie Feetham, Halifax; 2, John Feetham, Halifax.

Campines, Silver Cock—1 and 2, D. P. Doherty, Halifax; 3, W. H. Edwards, Dartmouth, N. S.

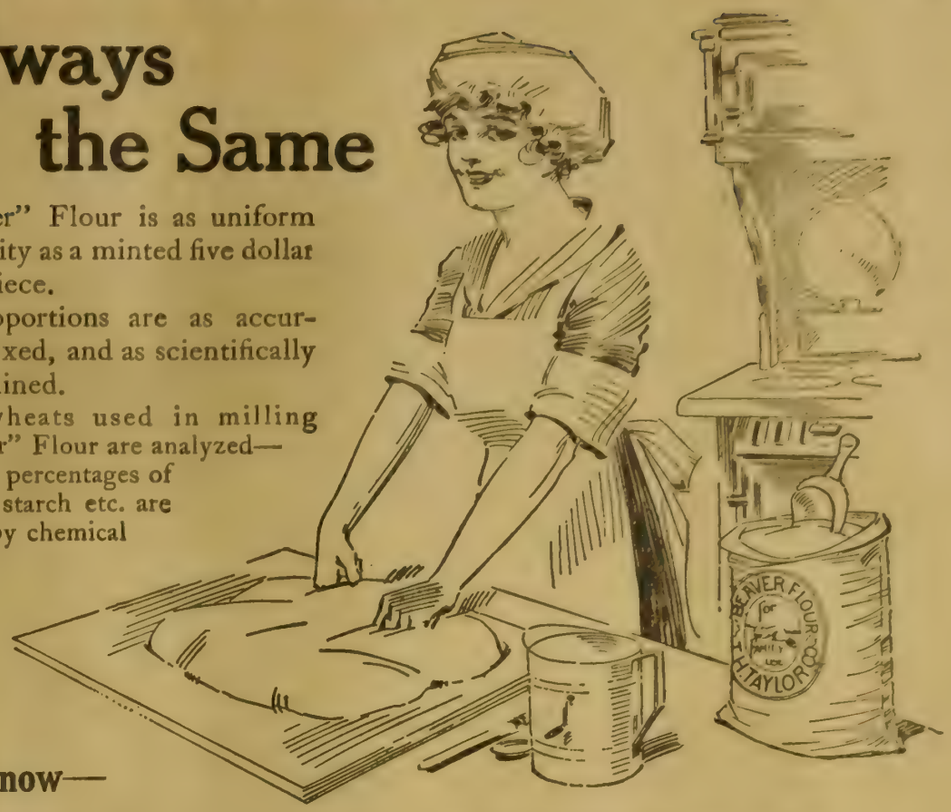
Campines, Silver Hen—1, D. P. Doherty; 2 and 3, W. H. Edwards.

Dominiques, Cock—1, Hillside Poultry Yards.

Dominiques, Hen—1 and 2, Hillside Poultry Yards.

Dorkings, Silver Gray—1, in Cock and Hen, Hillside Poultry Yards. 2 in Cock and Hen, Scott Warren.

Always the Same



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Its proportions are as accurately fixed, and as scientifically determined.

The wheats used in milling "Beaver" Flour are analyzed—and the percentages of gluten, starch etc. are found by chemical tests.

We know—

from years and years of experience—just how much western spring wheat to add to the choicest Ontario winter wheat—to obtain the desired strength.

BEAVER FLOUR

Equally good for Bread and Pastry. ***Milled of Blended Wheat.***

This is why "Beaver" Flour always gives good results—why it requires less shortening—why everything you make with it has a flavour that you cannot get with western spring wheat flours. Try "Beaver" Flour yourself for both Pastry and Bread—you'll find it equally good for either, and best for both. Remember, to insist on having "Beaver" Flour—the original blended wheat flour.

DEALERS—write for prices on Feed, Coarse Grains and Cereals.

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CROWN BRAND CORN SYRUP

Children prefer it to the most expensive butter. Why not save money by using more of this syrup?

In 2, 5, 10 and 20 pound tins—3 lb. Glass Jars.

Write for free Cook Book. 34

THE CANADA STARCH CO. LIMITED, - MONTREAL.

Games

Black Brested Red Cock—1, Don Keith, Stellarton, N. S.; 2, W. H. Edwards.

Black Brested Red, Hen—1 and 2, Scott Warren; 3, Don Keith.

Brown Red, Cock—1, Messervey & Pace, Halifax; 2, W. H. Edwards.

Brown Red, Hen—1, Don Keith; 2, Wm. Gilroy.

Golden Duckwing, Cock—1, Wm. Scullion, Halifax.

Golden Duckwing, Cock—

Silver Duckwing, Cock and Hen—1, Wm. Scullion.

Birchen, Hen—1, Don Keith.

Red Pyle, Cock—1, Scott Warren.

Red Pyle, Hen—1, Scott Warren; 2, Don Keith.

White, Hen—1, Don Keith.

Pit, any variety, Cock—1, John D. McLellan, Halifax; 2, W. H. Edwards.

Pit, any variety, Hen—1 and 2, W. H. Edwards.

Cornish, Dark—1, Cock and Hen, Hillside Poultry Yards; 2, Cock and Hen, Seaman & Stewart, Moncton, N. B.

Cornish White, Hen—1 and 2, Hillside Poultry Yard.

Houdan Mottled, Cock—1 and 2, Home Industries.

Houdan Mottled Hen—1, J. H. Gould, Dartmouth; 2, Home Industries.

Hamburgs, Silver Spangled, Hen—1, Thos. Aylward.

Black Cock and Hen—1, Cock and Hen, Hillside Poultry Yards; 2, Cock and Hen, Scott Warren.

Leghorns

White, S. C., Cock—1, E. E. Freehill, Antigonish, N. S.; 2, Ernest Craze, Port Williams, N. S.; 3, Halifax Industrial School, Halifax; 4, G. Carter, Halifax; 5, Home Industries.

White, S. C. Hen—1 and 2, Ernest Craze; 3, L. J. Walker, Truro; 4, G. Carter; 5, Home Industries.

Brown, S. C. Cock—1, Scott Warren; 2, Mrs. E. Feetham, Halifax; 3, G. Carter.

Brown S. C., Hen—1, Scott Warren; 2, Mrs. E. Feetham; 3, Luke Feetham.

Buff S. C., Cock and Hen—1 and 2, oGlden Buff Poultry Yards, New Glasgow, N. S.

Black S. C., Cock—1, Hillside Poultry Yards.

Black S. C., Hen—1, L. J. Walker; 2, Hillside Poultry Yards.

White R. C., Cock—1, Mrs. Susan Morash, Halifax; 2, Scott Warren.

White R. C., Hen—1 and 2, Thos. Tanner.

Brown R. C., Cock—1, Scott Warren; 2, W. H. Conrod, Halifax.

Brown R. C., Hen—1 and 2, Scott Warren.

Langshans, Black Cock and Hen—1 and 2, Chas. H. Smyth.

Minorcas

Black S. C., Cock—1, Seaman & Stewart; 2, Miss Nettie Foster, Halifax; 3, Thos. Aylward.

Black S. C., Hen—1, Seaman & Stewart; 2, H. Townsend, Halifax; 3. Miss Nettie Foster.

White R. C., Cock—1, Scott Warren.

White R. C., Hen—1 and 2, Scott Warren.

Black R. C., Cock and Hen—1, Hillside Poultry Yards.

Orpingtons

Buff, Cock—1, Otis Gardner, Shubenacadie, N. S.; 2 and 3, Home Industries.

Buff, Hen—1 and 3, Home Industries; 2, Otis Gardner.

White, Cock—1, G. Carter; 2, Duncan C. Fraser, Antigonish; 3, Wm. Hamm, Halifax.

White, Hen—1 and 2, G. Carter.

Black, Cock—1, Geo. A. Thompson; 2, Scott Warren.

Black, Hen—1, Geo. A. Thompson; 2, Robt. Carmichael, Halifax, N. S.

Plymouth Rocks

Barred, Cock—1, Percy Carey, Yarmouth; 2, J. R. Gifford, Dockyard, Halifax; 3, Vincent Gilfoy, Halifax.

Barred, Hen—1, Percy Carey; 2, Evangeline Poultry Yards, Wolfeville, N. S.; 3, J. R. Gifford.

White, Cock and Hen—1, E. E. Freehill; 2, Albert Boswall, French Fort, P. E. I.

Buff, Cock and Hen—1, Golden Buff Poultry Yards, New Glasgow.

Partridge, Cock—1, Thos. Tanner, Greenwich, N. S.

Partridge, Hen—1 and 2, Thos. Tanner.

R. I. Red S. C., Cock and Hen—1 and 2, Thos. Kyle, Sussex Corner, N. B.; 3, Robie W. Morine, Greenwich, N. S.

R. I. Red R. I., Cock—1, E. C. Griffin, Port Williams, N. S.; 2, C. J. Crowdis, Halifax; 3, Robie Morine.

R. I. Red R. C., Hen—1, C. J. Crowdis; 2, E. C. Griffin; 3, Robie Morine.

Red Cap, Cock and Hen—1 and 2, Hillside Poultry Yards.

Spanish White Faced Black, Cock and Hen—1, Hillside Poultry Yards.

Wyandottes

Silver Laced, Cock—1 and 2, Thos. Kyle.

Silver Laced, Hen—1, Thos. Kyle.

Golden Laced, Cock—1, Thos. Kyle; 2, Hillside Poultry Yards.

Golden Laced, Hen—1, Hillside Poultry Yards.

Columbia, Cock—1, Home Industries; 2, D. P. Doherty.

Columbia, Hen—1, D. P. Doherty;

CHEVROLET

The TRAIL BLAZER
to greater Motor Car Value

From the standpoint of dollar for dollar value there's not a car made which offers more for your money than the famous Chevrolet Four-Ninety A.

Before the Chevrolet was made in Canada, good cars were all high in price.

But our mammoth production and manufacturing efficiency enables us to sell the Chevrolet Four-Ninety A at a price much lower than its value when compared with other makes of cars.

With the surplus power developed by the famous valve-in-head motor the owner of a Four-Ninety A invariably is the "trail blazer."

Standard equipment includes speedometer, electric starting and lighting, ammeter, oil indicator light equipment, one man top, demountable rims, non-skid tires on rear wheels and many features usually looked for in cars much higher in price.

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ROADSTER $735

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SEE THEM AT YOUR NEAREST DEALER

CHEVROLET MOTOR CO., of CANADA
LIMITED
OSHAWA, ONTARIO

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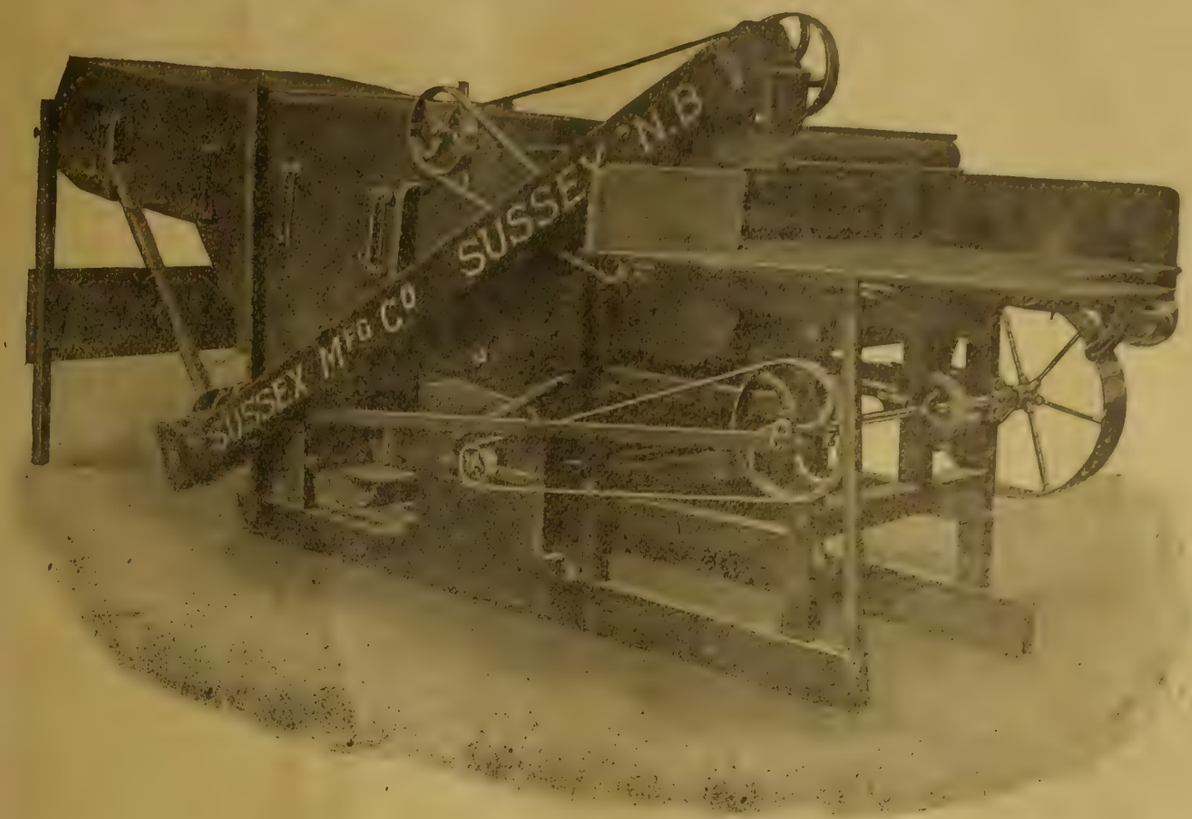
Save Every Bushel--The Call to Every Canadian Farmer



No. 1 or No. 2 with Tailings Elevator

Grain in the head is not grain in the sack. Close separation is possible only with the proper machine. Sussex Little Giant Threshers have played a part in every harvest for two generations and they will be doing their "bit" on thousands of farms this season. Made in four sizes. Supplied with or without any one or all the labor saving attachments. Every machine supplied with main drive belt and full equipment. Write us to-day. **It will pay you.**

THE SUSSEX MANUFACTURING CO., LTD.

SUSSEX, - - New Brunswick

2, Home Industries.

Partridge, Cock—1, Wm. Beazley, Halifax.

Partridge, Hen—1 and 2, Wm. Beazley.

White, Cock—1, Evangeline Poultry Yards; 2 and 3, Spring Park Poultry Yards, Charlottetown, P. E. I.; 4, C. H. Wisener, Pictou, N. S.; 5, Jas. Nicholson, Halifax.

White, Hen—1, Evangeline Poultry Yards; 2 and 4, Spring Park Poultry Yards; 3, C. H. Wisener; 5, J. H. Gould, Dartmouth.

Black, Hen—1, Home Industries.

Buff, Cock—1, Wm. Beazley; 2, Percy Rose, Halifax.

Buff, Hen—1 and 3, Percy Rose; 2, Wm. Beazley.

A. O. V., Cock and Hen—1 Seaman & Stewart.

Chickens

Andalusian, Blue Cockerel and Pullet—1 and 2, Chas. A. Dill.

Anconas, Mottled, Cockerel—1, R. D. Moore, Halifax; 2, A. D. Moore, Halifax.

Anconas, Mottled, Pullet—1 and 2, Chas. H. Smyth; 3, M. A. Moore.

Buckeyes, Cockerel and Pullet—1, Scott Warren.

Cochin, Buff, Cockerel and Pullet—1, R. D. Moore.

1, Kenneth Purrell, Fairview, N. S.; 2, Mrs. Chas. Dobson, Oxford, N. S.

Campines, Silver, Pullet—1, Mrs. Chas. Dobson.

Dominiques, Cockerel and Pullet—1 and 2, Hillside Poultry Yards.

Dorkings ,Silver Grey, Cockerel—1, Scott Warren; 2, Hillside Poultry Yards.

Dorkings, Silver Grey, Pullet—1, Hillside Poultry Yards; 2, Scott Warren.

Games

Brown Red, Cockerel—1, Jas. Nicholson; 2, Annie Gilfoy, Halifax.

Brown Red, Pullet—1, Jas. Nicholson; 2, W. H. Edwards.

Golden ,Duckwing, Pullet—1, Wm. Scullion.

Red Pyle, Cockerel—1, Miss Graham, Halifax.

Red Pyle, Pullet—1 and 2, Scott Warren.

Cornish Park, Cockerel and Pullet—1, Hillside Poultry Yards.

Houdans Mottled, Cockerel—1, Home Industries; 2 and 3, Evangeline Poultry Yards.

Houdans Mottled, Pullet—1 and 2, Home Industries; 3, J. H. Gould.

Hamburgs, Black, Cockerel and Pullet—1, Hillside Poultry Yards.

Leghorns

White S. C., Cockerel—1, 2, 3 and 4, Ernest Craze; 2, L. J. Walker.

White S. C., Pullet—1, 2 and 4, Ernest Craze; 3, 5 and 6, L. J. Walker.

Brown S. C., Cockerel—1, Wm. Hamm, Halifax; 2, Robt. Hamm, Halifax.

Brown S. C., Pullet—1 and 2, Robt. Hamm.

Buff S. C., Cockerel and Pullet—1

Brown S. C., Pullet—7, Scott Warand 2, Golden Buff Poultry Yards.

Black, S. C. Cockerel—1 and 2, L. J. Walker.

Black S. C., Pullet—1 and 2, L. J. Walker.

White R. C., Cockerel—1, Scott Warren; 2 and 3, Thos. Tanner.

White R. C., Pullet—1 and 2, Thos. Tanner; 3, Wm. Hamm.

Brown R. C., Cockerel and Pullet—1, Scott Warren.

Langshans, Cockerel and Pullet—1 and 2, Chas. H. Smyth.

Minorcas

Black S. C., Cockerel—1, Thos. Aylward; 2, Seaman & Stewart.

Black S. C., Pullet—1, Seaman & Stewart; 2, Thos. Aylward.

Black R. C., Cockerel and Pullet—1, Hillside Poultry Yards.

Orpingtons

Buff, Cockerel—1 and 2, Helen M. King, Halifax; 3, 4 and 5, Messervey & Pace.

Buff, Pullet—1, Chas. Piers, Armdale Post Office, N. S.; 2 and 3, Messervey & Pace; 4 and 5, Helen M. King, Halifax.

White, Cockerel and Pullet—1, Chas. A. Dill, 2, Mr. Cal. Green, Halifax.

Black, Cockerel and Pullet—1, Geo. A. Thompson, Halifax; 2, Jas. J. Carmichael, Halifax.

Plymouth Rocks

Barred, Cockerel—1 and 3, Duncan C. Fraser; 2, Percy Carey.

Barred, Pullet—1 and 2, Percy Carey; 3, Duncan C. Fraser.

White, Cockerel and Pullet—1 and 2, Duncan C. Fraser; 3, C. C. Gregory, New Glasgow.

Buff, Cockerel and Pullet—1 and 2, Golden Buff Poultry Yards, New Glasgow.

R. I. Red S. C., Cock—1, Thos. Kyle; 2, Gordon Mahaney, Wolfeville.

R. I. Red S. C., Cock—1 and 2, Thos. Kyle.

R. I. Red R. C., Cockerel—1 and 2, H. F. P. Cross, Halifax; 3, Thos. Kyle.

R. I. Red R. C., Pullet—1, Thos. Kyle; 2, Robie Morine; 3, H. F. P. Cross.

Red Cap, Cockerel—1, Hillside Poultry Yards.

Red Cap, Pullet—1 and 2, Hillside Poultry Yards.

Spanish White Faced Black, Pullet—1, Wm. Hamm.

Wyandottes

Golden Laced, Cockerel and Pullet—1, Thos. Kyle.

Columbia, Pullet—1, Home Industries.

White, Cockerel—1, Wm. Brimelow, Sydney Mines, N. S.; 2, Duncan C. Fraser; 3, Jas. J. Carmichael.

White, Pullet—1, Wm Brimelow; 2 and 3, Duncan C. Fraser.

(Continued on page 614, 3rd col)

BREEDERS' DIRECTORY

Our charge for inserting names in this Directory is $2.00 per year for each line under each heading. Money must be paid strictly in advance. Names taken out promptly when time is up Stamps taken.

Guernsey Cattle.

Barry P. Hill, Great Village, N. S.
T. D. Blaikie, Great Village, N. S.
John N. Chute, Berwick, N. S.
J. Frank Roach, Sussex, N. B.

Holstein Cattle.

F. W. C. Nase, Nerepis, N. B.
F. W. C. Nase, Nerepis Station, Kings Co., N. B

Ayrshire Cattle

C. A. Archibald, Truro, N. S.
John H. Hughes, Petitcodiac, N. B.
J. Frank Roach, Sussex.

Shorthorn Cattle.

Isaac Chipman & Son, Chipman Corner, Kings Co., N. S.
B. H. Power, Selma Hants Co., N. S.
C. A. Archibald, Truro, N. S.

Barred Plymouth Rocks.

Craig Bros., Amherst, N. S.

Shorthorn Cattle!

We have for sale five pure bred Bulls, ages from 12 to 18 months Also some Heifers from one to three years old. Write us for particulars.

FRANK C. FAWCETT,
Successor to Bliss M. Fawcett,
Sackville, N. B.

Fir Shade Farm Dual-Purpose Shorthorns!

Several years ago I imported from Ontario three Dual-Purpose Shorthorn animals, and now have in my stable at Rothesay eight representatives of this breed. Two of the females are entered in the Record of Performance, and so far have done excellent work. If you feel disposed you might drop in and see these the first time you are in the vicinity. Perhaps some time when you are coming to the city you would let me know, when I could arrange to go to Rothesay with you.

P. R. L. FAIRWEATHER. St. John, N. B.

COCKERELS!

Get your next season's breeder now. $2.00 will buy a good Barred Rock, White Wyandotte, or S. C. R. I. Red, bred from a heavy laying strain. This offer is for a short time only. I also have a few good hens and pullets for sale. All birds are shipped subject to approval.

H. M. McMONAGLE,
Fredericton, N. B.

FOR SALE

50 Rose and Singe Comb R. I. Red Chickens, May hatched, about ½ cockerels. I must dispose of them before Oct. 1st, so make me an offer for the lot.

Write for particulars

W. H. HENRY
Shubenacadie - - - N. S.

Willow Glen Shorthorns

Entire show herd for sale. See our record at the recent Halifax show. All prize-winners from three year old cows down bred by myself, and sired by Champion and Sire of Champion Stately Monarch. Write for particulars.

A. N. GRIFFIN,
New Minas - - - - N. S.

FOR SALE

A handsome, well-grown Guernsey bull. Sire purchased from the Experimental Farm, Ottawa; dam of equally good breeding, and a heavy producer. Will be sold reasonable. Full particulars on inquiry.

SARAH E. MOSES SMITH,
Woodwards Cove, - - - N. B.

Concrete Machinery for Farm Use
(MADE IN CANADA)

Our No. O POWER MIXER pays for itself in 12 days. PRICE $295.00 complete with Gas Engine. Guaranteed. You can't wear it out and is in a class by itself.

Also Crushers, Brick Block, Tile Machines Mixers, etc. New and Second Hand Gas. Engines Ask for Catalogue A.

WETTLAUFER BROS., LTD., Toronto, Ont.
DOUGLAS FULLERTON CO Dartmouth, N.S

Advertise in the MARITIME FARMER

GROUND LIMESTONE IN AGRICULTURE

(Experimental Farms Note).

From results obtained at the Experimental Station, Kentville, N. S., it would appear that ground limestone is likely to play an important part in Nova Scotia agriculture, particularly in helping to produce soil conditions favorable to the clover plant.

It would appear that two tons of ground limestone per acre is a decidedly profitable investment as is shown by the tests given below. The fertilizer used on duplicate plots was a 4-8-10 (4 per cent nitrogen, 8 per cent phosphoric acid, 10 per cent potash) mixture applied at the rate of 500 pounds per acre in 1914, the first year of the test. One series of plots were limed once during the period at the rate of 2,000 pounds per acre in 1914, and the others were not, the object being to find out the value of lime for subsequent crops.

In 1914 the yield per acre of unlimed, fertilized oats was 57 bus. 8.2 lbs.; limed and fertilized, 66 bus., 6 lbs.; unfertilized and unlimed, 45 bus., 12 lbs.

In 1915 the unlimed, fertilized clover yielded 4567.5 lbs. per acre; limed and fertilized, 6760 lbs.; unfertilized, unlimed, 2405 lbs.

For the 1916 crop, wheat, the yields were: Unlimed and fertilized, 9.5 bus. per acre; limed and fertilized, 17 bus.; unfertilized and unlimed, 8 bus.

In the spring of 1916, in order to determine the effect of additional fertilizing on the limed and unlimed plots, the duplicate plots were fertilized at seeding time with 500 pounds per acre of 4-8 fertilizer (4 per cent nitrogen, 8 per cent phosphoric acid.)

The results in 1916 from these plots were: Unlimed, fertilized 1914 and 1916, 15 bushels per acre; limed, fertilized 1914 and 1916, 23.75 bushels per acre.

Another experiment on a newly broken piece of land in a potato, grain and clover rotation gave equally striking results. The only application of fertilizer in the rotation was made in the spring of 1914, it being a very light one consisting of 140 pounds nitrate of soda, 300 pounds acid phosphate and 100 pounds muriate of potash, per acre. On one series of plots, ground limestone at the rate of 4,000 pounds per acre was applied in the spring of 1914. It was not to be expected that there would be much hay crop in 1916 as the plant food had all been used by the potato and grain crop previously.

The following yields were obtained from the 1914 crop, potatoes, unlimed, fertilized, 76 bus., 13 lbs. per acre; limed, fertilized, 88 bus., 45 lbs.

The yields for the 1915 crop, oats, were, unlimed, fertilized, 31 bus., 24 lbs.; limed, fertilized, 38 bus., 15 lbs. per acre.

In 1916 the clover yields were, unlimed, fertilized, 675 lbs. per acre; limed, fertilized, 1483 lbs.

On one field of ten acres put down to clover in 1915 which was in corn in 1914, having been manured at the rate of 15 tons manure per acre for the corn, the gain from 1½ tons of ground limestone per acre indicated an increase of fifteen tons on the ten acres over check plots left on the area unlimed. The limed areas yielded 5410 lbs. per acre, and the unlimed, 2400 lbs., a difference of 3010 lbs., per acre in favor of liming, or 15 tons clover hay at $10 per ton, $150. The fifteen tons of ground limestone cost approximately $6 per acre, or $60, leaving $90 per acre in favor of the liming, and in addition a much better soil resulting from the increased clover growth.

The Best Powdered Lime Rock may be obtained from Gandy & Allison, St. John, N. B.—at a very low cost, packed in convenient weight bags. Good results are obtained by spreading Lime during the Fall months. Obtain your supplies now.—Ad.

SHOW STOCK SALE!

"Minnie Vale of Victoria," another four year old daughter of "Ida Rooker 2nd Vale," has just finished a R.O.P. record of 15.784 lbs. milk and 5.61 lbs. fat, making two daughters in R.O.M. and R.O.P., all showing a much higher milk and fat record than dams. He is also a breeder of show type as proved by his continual winnings in the (get of sire class) at all Maritime Shows.

We can sell a few grand young Bulls by him, different ages, also expect to have a show lot of P. B. and grade females at Halifax, several choice ones to freshen then.

W. M. LEA,
"RIVERSIDE FARM," VICTORIA, P.E.I.

PRIZE WINNERS AT HALIFAX EXHIBITION

(Continued from page 613)

Black, Cockerel—1, Hillside Poultry Yards.

Black, Pullet—1, Hillside Poultry Yards; 2, Geo. A. Thompson.

Buff, Cockerel and Pullet—1, 2 and 3, Wm. Beazley.

A. O. V., Cockerel—1, Seaman & Stewart.

A. O. V., Pullet—1 and 2, Percy Carey.

Pens of Poultry

Barred Plymouth Rock, Fowls—1, J. R. Gifford; 2, Mrs. Gregory, Rockingham, N. S.; 3, Welsford L. Pace, Halifax.

Barred Plymouth Rock, Chickens—1, Duncan C. Fraser; 2, Golden Buff Poultry Yards; 3, Evangeline Poultry Yards.

White Plymouth Rock, Fowls—1, Albert Boswall.

White Plymouth Rock, Chickens—1, Duncan C. Fraser.

White Wyandotte, Fowls—1, Evangeline Poultry Yards; 2, J. H. Gould.

White Wyandotte, Chickens—1 and 3, J. H. Gould; 2, Evangeline Poultry Yards.

R. I. Red, Fowls—1, Henry Story, Halifax, N. S.; 2, Thos. Kyle.

R. I. Red, Chickens—1, Gordon Mahaney, Wolfville; 2 and 3, H. F. P. Cross.

Brown Leghorn, Fowls—1, John Feetham.

Brown Leghorn, Chickens—1, Fred Mitchell, Bedford, N. S.

White Leghorn, Fowls—1, Ernest Craze; 2, H. M. Hopgood, Halifax.

White Leghorn, Chickens—1 and 2, Ernest Craze; 2, Home Industries.

A. O. V., Fowls—1, Geo. A. Thompson; 2, Wm. Keeler, Dartmouth, N. S.; 3, C. H. Wisener.

A. O. V., Chickens—1 and 2, Helen M. King; 3, Wm. Beazley.

(Continued in next issue)

2 Ayrshire Bulls For Sale

One 12 months old.
One 5 months old.

Price $100.00 each.

Both bulls registered pure breds, from high producing dams and A1 sire.

Eastern Karakule Sheep Company, Ltd.
WINDSOR, - - N. S.

Two Year Old Holstein Bull For Sale

The undersigned offers for sale pure bred Holstein bull—"Island Rooker Laddie" No. 23671, bred by Lea & Clark, Victoria, P. E. I. and sired by the celebrated Ida Rooker 2nd's Vale. Anyone wishing a first class animal to head their herd should write for particulars to

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CAULIFLOWERS AND PICKLING ONIONS for sale.—H. E. D. GOLDING, Sussex, N. B.

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FOR SALE — Pedigree Oxford Down Ram Lamb. One of the best breeds for crossing. MacDonald College Breeding. P. J. LIVELY, R. R. No. 1, Sussex, N. B.

FOR SALE. — Willow Farm Oxford Downs. One two year ram (Prize Winner) Also some choice ram lambs. JOHN OGILVIE & SON, Elderbank, N. S.

WANTED—By thoroughly experienced stockman and farmer; position on farm or would work farm on shares. Good references. Apply "FOREMAN" care of Maritime Farmer.

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We offer for sale a very choice young Jersey bull, fit for service. Sired by "Romancer," a son of the great "Blue Blood of Dentonia" (Imp.) His dam is by Fereor (Imp.) Price $100.00, registered. Also a litter pure bred Yorkshire pigs due Oct. 5, and 20 White Leghorn pullets.

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Vegetables, some hay and wagon, buggy, sled, mower, horse rake, plow, wheel-barrow, cultivator, sleigh, harness, etc., etc., all included if taken soon, by owner who has business elsewhere. Less than half down and easy terms. On good road, near school and neighbors, only 1 1-2 miles to creamery. Owner estimates the wood marketed would pay for the farm. Comfortable 6-room house almost like new, telephone; big barn 40 x 60, both painted and in good repair with running spring water. For traveling instructions to this and a 120 acre farm for $1000 see page 6 Strout's Catalogue. Copy mailed free. E. A. SROUT Farm Agency, Dept. 2612, 294 Washington St., Boston, Mass.

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REGISTERED TRADEMARK

Published Twice-a-month in the Interests of the Farmers of the Maritime Provinces of Canada

Vol. 22 SUSSEX, N. B., SEPTEMBER 25 1917 No. 24

Canadian-Made Telephones For Independent Systems

IN war time, home-grown products and Made-in-Canada goods should be purchased in preference to those grown and made outside of the country. In that way, the maximum amount of money is kept circulating in the country, which increases prosperity and in turn enables the Government to secure more funds to finance the war.

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Canadian Independent Made-in Canada Telephones are second to none in quality of materials, workmanship and design. They are second to none for clear transmission of the voice and ease of hearing. Canadian Independent Rural Telephones have established records for low maintenance, cost and durability that have never been surpassed in Canada. They have proved themselves especially suitable for Canadian climatic and other conditions.

Canadian Independent Telephones are sold at prices that are fair and just. They are made in our modernly equipped telephone plant in Toronto. They are guaranteed by a financially responsible company that is situated right here in Canada and depends largely on the Independent Telephone Systems of Canada for its business. It is therefore wholly interested in satisfying the Independent Systems in every purchase they make and in furthering the interests of the Independent Telephone Movement in every possible fair way.

Buy Canadian Independent Telephones and get the most efficient telephones for your system and keep your money in Canada where it will do the most good.

Guaranteed construction materials also supplied. Let us furnish you an estimate on your wants.

BULLETINS FREE

The No. 3 tells how to build rural lines.

The No. 5 describes our private systems for large factories, etc.

The No. 6 describes our rural telephones.

The No. 7 tells about our small private systems for homes, garages, etc.

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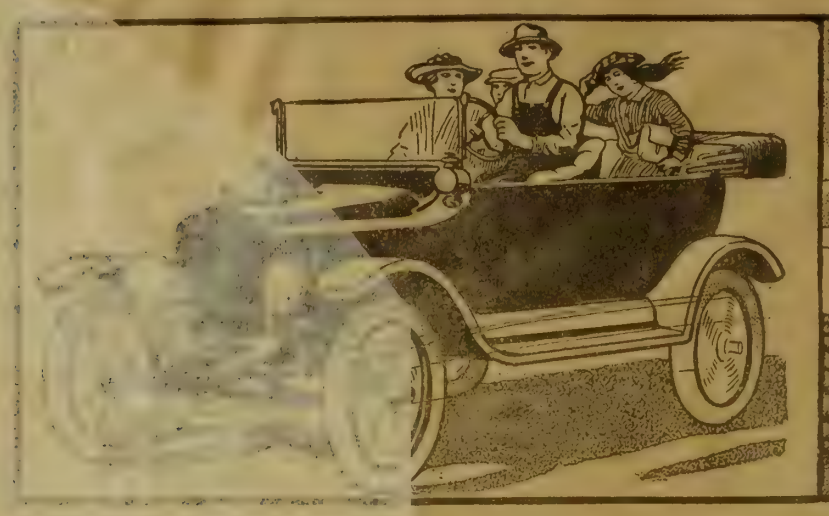

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The village farmer has enough work for his horses right on the farm. He can ill spare them to pull a buggy or a phaeton. And his own time is valuable, too. With farm labor so scarce, he cannot afford to spend half a day or a day to drive a horse to town and back, when he can do it in an hour or two in a Ford.

It Costs Less

A Ford car soon pays for itself in the time it saves the busy farmer, costs less to run than a horse. It doesn't eat its head off when idle.

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d tire him out so that he is not
farm the next day, now does it?

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the children to school, or your wife to visit a friend, 15 miles down the line, without any slowing up for breath or any urging with a whip. You don't have to say "gid-dap" to a Ford. And as for hills, well it scurries over them like a squirrel climbs a tree.

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flesh you can save. Don't you think it is a g
"buy"?

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We are offering 4 Bulls fit for service, 9 to 12 mos. old. They are good thick, straight bulls fit to head a herd in any county. Prices moderate. We have Rams and Ewes for fall delivery. Write your wants, we can suit you in quality and prices.

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Our present offering is a number of pure bred calves, both sexes. Let us quote you a price on a nice, dark red, young bull calf.

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Guernsey and Ayrshire Bulls, ranging from nine months to eighteen months old.

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Not a day without eggs in the last four years. This is the record of our bred-to-lay Barred Rocks, Rhode Island Reds and White Wyandottes. Try a setting, one dollar each. Am now booking orders for Chester White pigs. Also offering a few good Holsteins.

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Eggs for hatching, from the best of Buff Orpington and White Plymouth Rocks, $1.50 per 15.

R. R. BLACK, Proprietor
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Elmwood Stock Farm
OFFERS FOR SALE:

Two choice young Holstein Bulls, 15 and 19 months old, sired by Dutchland Pieterje Count, whose four nearest dams have records averaging 28.61 lbs. in 7 days, a grandson of Colantha Johanna Lad, "the world's greatest bull," 101 A.R.O. daughters, 4 over 32 lbs. and 7 over 30 lbs. Three of them world's records for 365 days.

W. L. ETTER, - Shubenacadie, N. S.

FOR SALE !

A good harness shop and business with a lot of land 30x50; also a four acre farm with a 12 room house, heated by steam and lighted with electric lights, all within five minutes walk from the station. For particulars and price write

W. H. HENRY,
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Lawndale Stock Farm
Jerseys and Shorthorns (Pure Bred)

In Jerseys We Offer:

Bull Calf, solid color, dropped June 10th, 1917. Dam now qualifying in Gov't R.O.P. test as a 5 year old. Sire, bred well up in "Golden Ferns Lad" and "Sophie's Tormentor" families. Here is the making of a splendid herd leader.

In Shorthorns We Offer:

Bull Calf, all red, dropped March 17, 1917. Sired by Champion of his class at Halifax 1915 and out of a good milking dam.

Also one all red Heifer, dropped Nov. 3rd, 1916, out of a good milk yielding young mother, by the same sire as above, and another all red Heifer, dropped April 29th, 1917, from a large milk yielding dam, also by the same sire as both the above.

Calves of both the above breeds are coming every month.

Write for information.

I. M. LOVITT, M.D.,
Yarmouth North, - Nova Scotia

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I offer for immediate sale, the Guernsey Bull, Lord Kitchener, No. 929, calved April 12, 1914. He is a fine type of the breed, and his sire and dam are of choice breeding. Will sell at a moderate price, as I am overstocked. I also have several younger ones for sale.

For particulars apply

C. G. COX. - Canard, Kings Co., N. S.
Successor to Wm. Cox & Son

Maple Green Farm Holsteins

Just now we are offering some fresh calv d cows and some due to freshen shortly, also yearling heifers and heifer calves, all with official records or from official record dams. Remember this is the only herd in Eastern Canada which owns two Jr. 3 year olds with official records of 25.05 and 26.54 lbs. butter in 7 days.

Herd sires in service, "Maple Grove Mercena Mercedes," No. 11727, the sire of our 26.54 lb. Jr. 3 year old and who so far has not a tested daughter testing under 4%. Our Jr. herd sire, "Homestead Hengerweld Rooker," No. 20652, three-quarter brother to our 25.05 lb. Jr. 3 year old.

For particulars write

R. L. HICKS
Dalhousie Jct., - - N. B.

Spring Brook Ayrshires

Present offering, several choice cows and two heifers each twelve months old, also two bulls, one twenty-two months the other twenty months old. All of good size and in splendid condition and from good milking strain.

Write us your needs in the Ayrshire line. We have started many young breeders on the right tract, and have replenished the herds of some of the older breeders and exhibitors. We can supply your wants.

McINTRYE BROS.,
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Single Comb White Leghorns

A few choice exhibition Cockerels, ready for fall and winter fairs, for sale. Write for prices.

ERNEST CRAZE,
"Rosewarne Poultry Farm,"
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CLEARING SALE OF AYRSHIRE CATTLE

Having decided to stop dairying, I offer my entire herd of pure bred Ayrshires at private sale. Cows fresh and due to freshen this fall. Young stock from 2 year old heifers down to calves. Also two bulls. I have been testing cows in the R. O. P. test for four years. Any or all of this stock can be had at a very reasonable price if taken within the next 60 days. Write for particulars.

T. J. HAWKINS,
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SUNNYSIDE STOCK FARM
Ayrshire Cattle and Chester White Swine

A number of Young Bulls fit for service, out of Record of Merit cows. This herd has been under test for a number of years. Herd now headed by "Star of Fern Brook" and by "Star Glen Cairn", brother of the noted Jean Armour.

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Phone 111. - - - - Sussex, N. B.

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Our Shorthorns have wintered well and we have a fine bunch of Calves for sale at any age required. Are booking orders for Rams for fall delivery. Our Lambs weighed from 100 to 120 lbs. last October and the present crop have come strong and extra good type.

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NETHERLAND FARM, Hammond River, N. B.
HOLSTEIN CATTLE AND YORKSHIRE SWINE
WM. S. HARDING, PROP.

We rae all sold out of last years crop of calves. We are now offering some young bull calves sired by Sir Foforit Schuiling. Also a fine litter of young Yorkshire pigs.

ELMHURST SHORTHORN STOCK FARM

Present Offerings—Six exceptionally good red and roan bulls, 10 to 18 months of age, from superior milking dams. Write me for prices and particulars before placing your orders elsewhere

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For sale at present, one bull 20 months old; two bulls 10 months old, almost fit for service. Several bull calves that are dandies and as well bred as you could wish. Also can spare a few heifer calves from one to six months old. Inspection invited.

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R. O. M. HOL STEINS

Present offering:—Bull Calf, month old. Weighed 112 lbs. at birth Dam made nearly 600 lbs. butter last year and sire's two nearest dams records average 25 lbs. butter in seven days. This calf is a splendid individual and fit to head any herd when mature. Price reasonable if taken soon. Get him if you want to improve your stock.

J. H. STOCKTON, BULL'S CREEK FARM, WOODSTOCK, N. B.

WISH-TON-WISH STOCK FARM
Breeders of Big, Smooth, Heavy Producing Holsteins

The kind that fill big pails the year through. Can sell a few good bulls fit for service and some choice Bull Calves; also some Heifers and Cows due to freshen soon. Write or 'phone for description and prices.

HARDING BROS., Proprietors, WELSFORD, New Brunswick.

Willow Farm Ayrshires

I have for sale three extra good young Bulls from prize winning stock and R.O.P. Dams with large records. Ages 9 mos., 12 mos and 15 mos. Sired by Flavius of Ottawa. All are in prime condition.

P. S.—I also have one fine Carriage Horse for sale, 5 years old, light bay color, stands 16 1-2 hands high and weighs about 1100 lbs. Sired by Canadian Prince and dam is a Thoroughbred He has good style and easy action and will road 10 to 12 miles per hour.

Apply to ARTHUR S. DENNIS,
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Book your orders now for Chester White Pigs from four weeks upward. Pairs furnished that are not akin.

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Several heavy Draft Horses, including a few good Mares for breeding. Also eight Horses and young Pigs. We are offering a very fine Bull, 16 months old, color pure white.

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Prize winners Halifax and Charlottetown. $1.25 per setting.

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WM. J. MacLEOD, Sussex, N. B.

FOR SALE
R. O. P. HOLSTEINS.

Two bulls ready for service, and several bull calves. The right type and prices right.

For description and price write,

D. R. NICHOLSON,
"Riverview Farm", Coxheath, N. S.

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Through the courtesy of the Winnipeg Grain Exchange, every Farmer in Manitoba who has a Telephone may call his local operator and get the closing market prices for the day.

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